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ABSTRACT

Prepared from taped transcripts, this report summarizes presentations and panel sessions from a conference at Syracuse (New York) University that investigated the power that computers deliver to teachers and students of writing and editing, and the challenge of making the transition from typewriters to computers in the classroom. Titles of the chapters of the report are as follows: (1) "Buying Hardware: Hard Choices and Second Thoughts"; (2) "Choosing Software: First Pick Your Word Processor"; (3) "Networking in a Writing Lab"; (4) "How Different Is It? Making the Transition from Typewriters to Computers"; (5) "Evaluating Educational Software"; (6) "The Computer as an Audio-Visual Tool"; (7) "The Computer as a Reporting Tool; How 'Newsday' Uses Data Bases"; (8) "Coaching from the Sidelines: Using Style and Spelling Checkers"; (9) "To Check or Not to Check: How Much of a Role Should Style and Spelling Checkers Play in Writing Classes?" An afterword on the transitional nature of the conference topic concludes the report. (SKC)

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Mightier than the typewriter

A report on
Using the computer to teach writing for the mass media

From a conference sponsored by
The S.I. Newhouse School of Public Communications
at Syracuse University
with partial funding by the Gannett Foundation

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Joan Dappa

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Acknowledgements

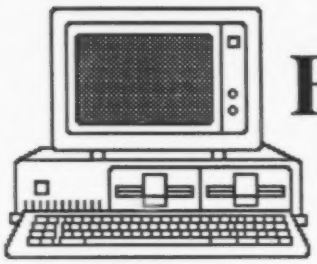
Getting people together around a computer has become something of a professional habit of mine, especially since I joined the faculty of the S.I. Newhouse School of Public Communications. So when the Newspaper Department faculty came up with the idea of hosting a conference for colleagues from across the country on using computers to teach writing for the mass media, everyone looked at me and said, "Why don't you do it?" Fortunately, they and a number of other Newhouse faculty agreed to help. So did a number of colleagues around the country, and William Oates of Miami merits special mention for suggesting the names of several of the key people on the program. Nor would the program have been possible without the support of Dean Edward C. Stephens and and his capable staff, especially Judith VanNostrand, the new assistant dean for administrative operations. The university's Conference Center provided helpful guidance. Then a generous grant from the Gannett Foundation made the event a financial reality.

The meeting Dec. 2-4, 1986, at the Sheraton University Inn and Conference Center was recorded on audio tape almost as an afterthought. But so many people asked if we were publishing proceedings that it seemed logical to turn those events that were taped into a volume that might be of interest to the many educators struggling with the switch from typewriters to computers. One of the Newhouse secretaries, Isabel Pearce, began transcribing the tapes using PC-Write, a time-consuming and difficult job.

The report seemed like a logical project for desktop publishing, giving me an excuse to take such packages as Pagemaker and Cricket Draw out for a serious test drive. Fortunately, by the time I was ready to convert the files from IBM to Macintosh and start the process, a new unit had opened up on campus. That is *FACES* (an acronym for Faculty Assistance and Computing Education). A special thanks goes to Bret Ingerman, who coached me through not only Pagemaker, but Thunderscan and Kermit, but the entire staff was extremely helpful and cheered me on as I logged hour after hour in their headquarters.

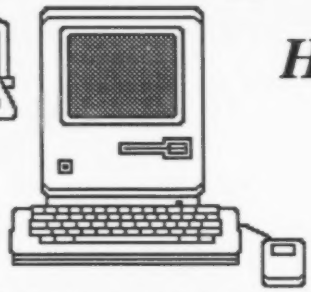
One of the nicest things about desktop publishing is the way it permits emphasis at critical points, as in ***Thank you all very much!***

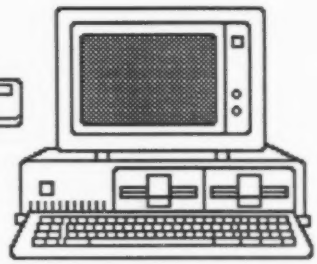
Joan Deppa
Conference director
September 1987

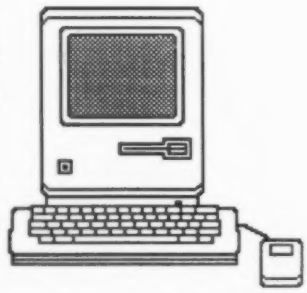


Buying hardware:

Hard choices and second thoughts







Helen Aller of the University of Florida, who chaired this session, described herself as a victim of the "imposter syndrome":

I really know very little about computers, but what little I know is more than anybody else seems to know in the college, so I fell into the position of being the computer guru. I started in 1981 directing the Electronic Tech Center, which was a videotex, teletex, cabletex, new technology kind of think tank. Initially it was a big empty room, and now we have a 24-hour cabletex channel that's on the local Cox Cable System under my supervision. I have about 20 students who write and edit short news stories all day long. I've learned more than I ever wanted to know about computers and so when the time came to put computers in the faculty office and the labs and try to make some decisions about what we were going to do over the next 10 years, everybody turned to me and said, "Well, you're the logical person to head this up." I wasn't quite sure I agreed, but it seemed like a good idea at the time.

The Dean (Ralph Lowenstein) in September of 1984 appointed an *ad hoc* faculty committee called the Computer Committee. We had about a dozen members of the faculty and the radio and television stations. Florida is very unusual because we have under one roof three radio stations, one television station and then this one 24-hour cable channel all reporting to the Dean. So our program tends to be very academically oriented, very student-oriented. With this basic dictatorship of one person in charge, we can make some unilateral decisions about hardware and computer acquisitions — and with the consensus of this committee that we had studying the problem for about nine months.

We met with hardware vendors. We met with software vendors. We tested out demo disks. We wrote away for different word processing packages and, going with the cliche that nobody ever got fired for buying IBM, we decided to buy IBM compatible equipment, but we did not actually buy IBM. We weren't impressed with them at all. I hope none of you represent IBM out there, but if you do I'd tell it to your face as well. We invited all these hardware vendors to come in. We said we want microcomputers. We did decide that as a given — well, actually that wasn't a given from the beginning. We invited Atex into the college and showed them all our different applications. We have these four working newsrooms. We also had a newspaper editing lab with some very obsolete NEC equipment that was being held together with Band-Aids and baling wire. We knew we were going to where basically all the processing was done on the disk, but we did want some kind of connectivity and decided on a local area network (LAN). Well, this would have been early 1985 and there weren't very many local area networks actually out there that were installed, and we knew that ultimately we wanted to have about 250 work stations. There weren't any LANs that could handle that kind of capacity except Ethernet. It uses what is called a bus-topology: You have a main backbone that runs throughout the building and then you can branch off into different smaller connect sites, and it seems to be working pretty well. That's what we did.

We started out with $20,000 the Dean gave us to begin the process of computerization. Well, the $20,000 didn't go very far. We bought about eight units that first year — all for faculty. And then we bought five for the newsrooms. So then we started looking for some software that would bring in the Associated Press high-speed radio or TV wire and sort it into categories and give you room for some local origination divided screened windows. There really wasn't anything else there. In fact, right now there still isn't unless you want to pay an awful lot of money. There were some companies that bundled the hardware and software together and wound up charging you about $10,000 a work station, and that was only expandable to maybe five work stations, and we needed considerably more than that because we had four newsrooms from the very beginning. The telecommunications faculty (the renamed broadcasting faculty) really wanted us to buy some off-the-shelf software. They did not want us to write our own. They thought we'd get in big trouble if we did that. But there was nothing that we could afford. There were some programs like Media Computing. They said, "Oh yeah, yeah. We're networkable. We'll run on an Ethernet. No problem. We'll send you a demo disk," and so they did and it didn't work. It wouldn't run on the Ethernet, and they were not interested enough in our business to come down and show us that it would in fact work, so we didn't buy it. But now that I hear Texas is using it, I think maybe it would have worked or maybe they could have gotten it to work.

What we did instead was hire a computer science

"We started out with $20,000 the Dean gave us to begin the process of computerization. Well, the $20,000 didn't go very far."

Helen Aller

student who I happened to meet on the golf course. We were talking about PCs and he wanted to do a senior project, and I said, "Why don't you come work for me. I've got a project you'd love." And he was just brilliant and we've hired several since him who have never come up to his standards. But he and my computer manager, which is another story — I'll tell you about him in a minute — got together and wrote a software program that brings in the AP high-speed wire, sorts it into about two dozen categories. The screen is divided in thirds with a very narrow vertical third on the right hand part of the screen where the one-word slugs of the categories come in, and the top horizontal third is where the newsstory itself paints in. And the bottom horizontal third is where you create your local story. So the screen has three windows basically divided like this. It worked pretty well. There are still some bugs in it. It doesn't have all the bells and whistles. But it only cost us about two grand to develop, so basically you get what you pay for. There is a very nice fancy system out there for anybody who has a lot of money — $24,000. That system will do everything but sit up and beg. We thought that was too complicated probably for most of our staff to learn, let alone an ever-changing group of student editors. We would just never get our money's worth out of that.

So to back up a little bit, this committee picked Zenith as the supplier for the PC. Zenith has a real aggressive educational sales staff. They have on-site maintenance and warranty repair within the first 90 days of purchase. IBM does not. If you get an IBM out of the box that doesn't work, you have no recourse but to put it back in the box. You pay all the shipping and you send it back and you wait several weeks, and maybe they'll send you a new one if they feel like it that day. When IBM came in to talk to our computer committee, we said: "We want microcomputers. We want you to bring a PC and let us play with it. We want you to limit you presentation to 15 minutes and leave the remaining 45 minutes for questions." So the IBM staff showed up with a slide show about a System 36, a mini-computer. We didn't want that. We told them up front we didn't want that. They didn't bring a PC. They didn't even have a PC-oriented staff to answer the questions we were asking. They didn't know anything — at the time they didn't have their PC network out, so they couldn't tell us anything about that.

Meanwhile, another really strong recommendation of this Computer Committee was that we have one full time computer person on staff. This is a luxury. I realize most schools can't afford that. We did manage to get that through because we'd already been asking for it for a couple of years, so when this came along we said to our administration: "You know, if we're going to do this, we've got to have one person." We're very fortunate that in-house we had a person who was working down in the photo lab sort of wasting his brain power changing chemicals, and he was a hacker on the side and had a Zenith and had taught himself programming in several different languages. He was really enthusiastic about taking this position for the price we could offer, which wasn't much. So he has sort of led us down this primrose path of the local area network in the Zenith PCs, and one year later you can see from these reports I've given you, we've spent almost $200,000. But for that we've gotten 57 work stations, two file servers — one 40 megabyte and one 70 megabyte. These are the central computers that provide the connectivity. We've gotten numerous printers, all kinds of software, a lot of tools.

The reason I've given you all these figures is just that not that any of them will really even necessarily apply if you're starting a project or are in the middle of a project, but to give you an idea of all the hidden costs. This expenditure-to-date 9/30/86 report represents every single purchase order that I've put my initials on since 1984. I went back and I did this retroactively. I regret to say I did not keep track of it as I was going along. I had sort of a loose idea of whether we were over or under budget. It was a little too loose because it turned out we were about $30,000 over budget. Anything you plan to spend, I can tell you, you're probably going to have to double or triple. All of our original estimates were off by 10 or 20 percent on some things — some were over, some were under. The prices change all the time. The software changes all the time. I think it would be nightmarish without at least a faculty person who was very astute about the different hardware and software and who had the time and who had some kind of relief time — one-third or two-thirds relief time — to coordinate this for you. Or some central university-wide facility that can provide you with that kind of support.

We have not put much time or energy into any programs, any software, other than wordprocessing. We decided to go with XyWrite because it was so similar to Atex. It was developed by Atex people and it works very well with our news wire capture program. It's a slightly programmable language so that we've been able to adapt it and adapt certain keys to emulate Atex. Through our campus page newsroom, which is now all PCs, we produce a page in the local Gainesville Sun, the local daily newspaper and a New York Times affiliate. That is now set up very much like the Atex system at the Gainesville Sun, so when the kids go back and forth they don't have a real hard time transferring from one system to the other, whereas before when they worked on the NECs and then they went down to the Sun, it was just totally different.

One thing that I'll just say briefly before I turn this over to my co-panelists is that one application we're real eager to get in on is desktop publishing, but we don't want to use the Macintosh. We want to stick with this one hardware system. We want to be able to take out monitors when they go down and boards when they go down and have compatible programming. The AP wire comes in very nicely into a Zenith. I've asked the Apple people if they would hook up a Macintosh to our network and show me how to pull that wire into it, and they say, "Oh, it can be done, but it would require

a lot of programming and we obviously can't do that for just one or two sales — or even a whole lab full," because we said at one point we might want a whole MacIntosh lab if they could make it work. And they're just not willing to do that.

We are a test site for the Pagemaker PC version. We have it; it works. We're using Microsoft Windows as the operating environment, and we're using this exact same graphics program Innovision. I had one of my students, who now works for the Knight-Ridder graphics network in Washington, and ...I had a Mac sitting right next to a souped-up PC with these pieces of software. I had a picture of the space shuttle that had come out of a MacIntosh. I said, "Robbie, I want you to duplicate this space shuttle on the PC." Within a couple hours — never having used a MacIntosh or a PC with this software — he "had" the program; he had the exact drawing to the dot on the screen of the other.

The verdict is still out as to as to whether it will be good enough. If we were only to buy one Mac, I would say buy. But we really want to do a whole lab and if we're going to do a whole lab, we want to stick with the Zenith configuration. And we have to boost up the Zenith by adding a high resolution graphics card and high resolution monitor and then the software. So it about doubles the cost of the Zenith.

And with the PC you will get color if you want it. You can get a color plotter. They're not very much money now — I think under $5,000. And I think this is one direction journalism education is heading. Certainly in Florida we have a big interest in getting into more color, not just in print but in advertising sequences, too.

And I really think it's going to work, but the pitfall of working near the cutting edge is that sometimes you get a little too close to the blade, and this may be one that we get burned on. If so, then we've spent about $10,000 in this graphics stuff that won't work, but I think I could come back to you and with time — a month or two months — and tell you it is working because we're real close. We're getting some output and it looks good, but it's just that we've got such an overwhelming job and only one person really handling it full-time, and that makes it tough.

This is my colleague, John Morris from the University of Florida, who chairs the New Technology Committee, and Jerome Aumente from Rutgers, with the Journalism Resource Institute. I'll let John speak to you for a couple minutes about some of his impressions and then Jerry, and you all be thinking of questions because we want to get your input, too.

JOHN MORRIS: I think it probably would be really beneficial if we got into more of a discussion than for me to expound, so I won't take much time. I just want to say that having experienced some of the things that are going on in Florida brings to mind a couple of terms. A couple of words that I'd like to add to the system are "panic" and "depression" — panic over the fact of really not knowing what to do, and I think that it is something that we all share because you really are afraid to make mistakes, especially mistakes like Helen is talking about when you're spending a lot of money.

But I would basically encourage everyone to make a decision at some point and not just sit on that decision, but act and be prepared to make changes. One of the problems that I have — and that's why I got the depression — is that once you get committed to a certain process, a certain system, a certain way of going, it seems as though that you can't make any changes. And that's just really not the nature of computerization. It, in fact, is just that kind of a world and what it really means, I think, is getting involved in the processes at some point and saying, "We're jumping on," and then being prepared to continually be able to change, going completely different directions if possible.

The discussion that she was talking about at the very end — about Macintosh versus using our networked system — is one where you have to decide: Do you want to stick with what we are doing or do we want to, in some ways, be able to experiment with some of them? We've had quite a bit of discussion about that. The value of sticking with a single system, of course, is to keep everything consistent and to try to make the best use out of what you've committed to. The value of switching, of course, is to keep yourself abreast of what's really going on and to be able to make some functional use out of some of the things that other people have developed.

"I would basically encourage everyone to make a decision at some point and not just sit on that decision, but act and be prepared to make changes."
John Morris

I teach advertising and so the advertising world is moving into using graphics, not only to display and use as a final end product but to use in design. That's where my interests lie — in the design area and not so much in producing the final product — because at this point the final products that come out of the computer process are not satisfactory in my industry. They must, in fact, be generated by something other than the computer in its final video stage. So the basic interest for us is in designing those things and just getting to a stage where we can manipulate graphics and where we can manipulate text.

So I guess I would just say that, although there are people who are willing to help, the basic decision is going to come down to you. I would only encourage you to realize that you do have to make decisions. You do have to get involved and say: There are some shortcomings and we're going to realize those as we move along, and that's fine. And we can be adaptable and make changes and not be so depressed over the fact that we spent this money and it's all for naught, because it's not. It is a good expenditure to get involved in the processes, I think.

You need to evaluate — and I think we did a good job of that in our committee — the possible considerations that are out there, the things that are coming out, the things that you want to find out if you can make compatible to your system, listening to the people who tell you that, "Yes, we can do this." I find, as Helen was mentioning, vendors

often promise the world and deliver nothing, but so do consultants — that's just the nature of it.

There are a lot of hard choices and that's why I think it would be nice to share some information here as opposed to me just rambling on. Helen mentioned that I'm on what we call the New Technology Committee. I'm changing the name to the Technology Committee because I have a colleague who backs into my office about every other day and says, "Okay, what `new' technology is around today?" He's quick to point out everything that I mention has been around for this or that long. There are some things that are new; there are some things that are just new twists on old approaches, and I think those are the things that you kind of have to be careful of — have to not avoid — but just have a strong evaluation before you make a decision, and then you ought to be able to make that decision.

" I think you've got to analyze long-range objectives and you've got to bring the faculty into this process right from the beginning."

Jerome Aumente

JEROME AUMENTE: Just to put in context what I'm saying, Rutgers about four years ago decided to take all of its information, journalism, communications packages, academic programs and everything else, and put them under one roof into a School of Communication, Information and Library Studies. What we did was to combine in one unit the Department of Journalism and Mass Media that I was chairman and founder of, the Department of Communication, the Department of Library and Information Services, which offered a master's in Library Studies, and the Ph.D. program in communication and information studies.

I give you this bit of history for a very practical reason and that is individually we were little voices crying in the wind to the Administration. We have a very complex system at Rutgers — individual colleges, a provost, three campuses, a central administration. We found a thing that we could not get individually, suddenly started blossoming once we came together as a unit. The first year that we were together literally we were able to get from the provost a commitment to create an electronic classroom that includes 20 IBM PCs, printers, modems, support equipment, software, things like this.

In the last several years we've been able to get some grants from the Fund for the Improvement of Secondary Education. We have just received another grant from the State Fund of Higher Education to build a journalism laboratory classroom, whatever you want to call it. That will go towards equipment. We are moving like everyone else in the direction of desktop publishing, moving toward more computer graphics, moving more toward interactive media. You get a headache — I'm sure I do — trying to keep up with all of this. But just very quickly to give you a sense of what we have learned in three or four years of doing this. I think that the danger is in responding to each new piece of new flak that comes at you in the way of hardware and new and improved technologies. I think we have to slow down that whole process and basically come up with a system that says, "What do we want to do?"

You have to start reanalyzing your curriculum in terms of where you are now, where you want to be five years from now — 10 years from now, and then also look at the industry. Ours is a very complex problem because we are looking not only at journalism and mass media, but we are looking at organizational communications in a corporate educational sector. We are looking at library and information systems. We are looking at a whole range of things, so that, in a sense, our hardware has to serve a variety of uses. This has been very helpful in other ways in that we have faculty whom we can draw upon, who bring not only the sensibilities of each of these subdisciplines, but who have backgrounds in database management, who know hardware, who know computer science, who know how to use this.

In terms of a survival strategy, I think that you've got to analyze long-range objectives and you've got to bring the faculty into this process right from the beginning. I think that we have found that having not only departmental committees but school-wide committees gives a better coming together on this process. The other thing is I think you've got to get an administration that will understand what you're doing. I think the biggest problem that we have found is trying to sell this stuff to people who literally don't understand what we're doing. In our case we've been helped by having administrators who, in fact, understand and use our software and are computer-based and know these things.

Other problems: In traveling around the country I find an awful lot of this — the big problem is that you get this spurt, this episodic burst of hardware that you buy and then suddenly you find that you don't have anything for maintenance. There's nothing for personnel. There's nothing for replacement. There are no database costs built in. There are no communication charges built in. The kinds of things that long-range planning and common sense would tell you.

I also would echo what John has said and that is, do something. We are always hearing that if you wait six more months, the price is going to drop and the next generation is coming out — wait, wait, wait. But within a bureaucracy we have found that if you don't have it, you don't get it. It's easier for us to get more because we have some. It's easier for us to get things replaced because we have things that aren't as good as X school or not as good as this in terms of being competitive in the industry.

I think the other thing that is real important is a tendency again in this first burst -- to buy the stuff and then forget about it, and I think that you need a record of what you're doing with it. This again is very effective in terms of going back into that budget source to say we need more, we need help, we need this kind of thing. They need good numbers on how many students were involved; what was the progress that was involved in their using this material.

You're dealing with people in a university setting who want statistical information; they want hard scientific data, and that stuff is out there. There are some pretty good studies being

done by the Alternate Media Center, things that are being done at the University of Florida. You ought to get a look at what is happening at Michigan State University. There was an electronic tech consortium that was in business for only a year, but they turned out some good reports. San Diego State is the secretary for that but University of Wisconsin and University of Nebraska were involved. There are some very important sociological things that cam out of this, which will ring bells with your administration. There are reference points to gender use of this material, very important references in terms of media minorities and minority use of these things. (Administrators) don't care what is inside that box, but they want to know if they are going to be protected five years from now when the Board of Governors looks at them and says, "Well, what are you doing with 500 PCs in your back room there?"

I think the strategy of this game plan also should include one or two other things, and that is, assume you're going to need grant support for this. There are a variety of grants out there -- at the state, corporate and federal level.

I'm assuming most people here are in the academic game -- I think it's very important that when you start looking at recruitment of new faculty that you build in this kind of sense of where you want to be five or ten years from now, the faculty you have now, the faculty that you're going to have five or ten years from now. You should be looking at them not so much in terms of their background but their propensity and their willingness to do something differently. Are they willing to get involved in research projects? Are they willing to get involved in teaching that involves a computer base? Do they have the right kind of instincts?

Someone in the audience asked if the panelists had looked at computer systems designd for newspapers.

ALLER: Our initial goal was to bring in the AP radio wire, and we were looking at broadcast applications also from an accounts perspective and that sort of thing. So we wanted it all and we didn't look at the newspaper software really. We did look at a company called C-text that I think had a pretty nice newspaper system that we were very impressed with. But since we're just in the process of installing the editing lab, we are initially going to use the radio software on the newspaper wire and hope it works. Do you know, Jerry, anything about newspaper packages.

AUMENTE: Part of our mandate is to look at different kinds of software and different kinds of hardware because our graduates when they go out into the field will not be faced with just one brand. In terms of word processing, we started out with Wordstar for the basic newswriting classes and editing classes. We are finding that Wordperfect is probably a better system so that, as a policy, we've switched over to Wordperfect for the basic newswriting and broadcast writing classes.

We also are working with the newspapers in the state, trying to match up what we're doing with what is likely to be out there in the field when the students get there.

ALLER: Also about editing software for newspaper editing labs — I think a good source probably for all of you would be Kathleen Criner at ANPA, because newspapers are moving more and more into PC-based systems, particularly smaller papers, and Kathy keeps track of the developments. They have a new technology lab there in Virginia and she would be a real good source as to who has these programs. I periodically read about it in Editor and Publisher and in Presstime; they say, you know, "The East Shopping News and Journal is going into PCs," — not too many big papers yet but the smaller, even some mid-size, dailies are using PC systems.

Someone from the floor asked how large an area the University of Florida network covers.

ALLER: Oh, many thousands of feet. That's what in this report costs — the Xerox transceivers and repeaters. We had to buy seven of them. For every thousand feet you need a repeater box, which is another five grand, I think, by the time you have the repeater and transceiver to boot the signal on down the line.

> *" I think a good source for all of you would be Kathleen Criner at ANPA because newspapers are moving more and more into PC-based systems, and Kathy keeps track of the developments."*
>
> **Helen Aller**

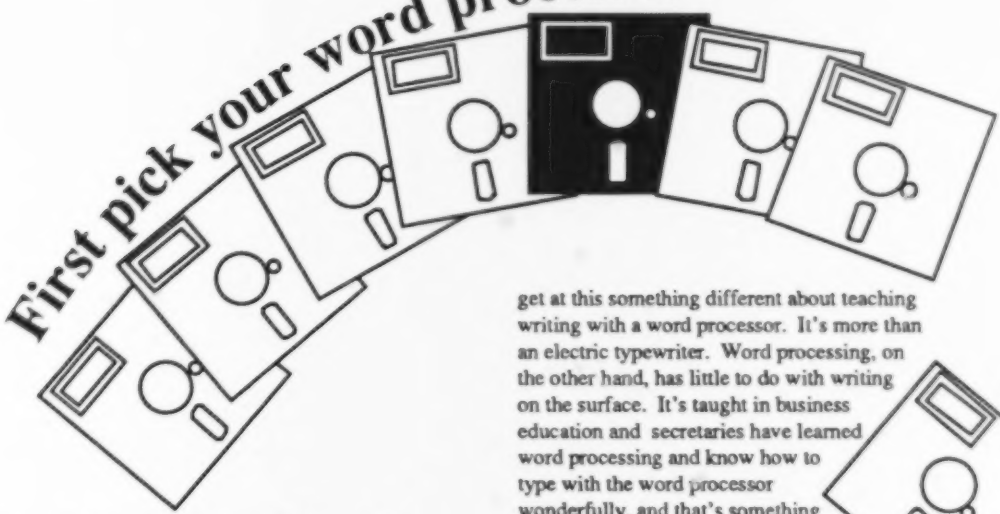
Someone asked about the struggle over whether or not to network or not to network — whether to do that before or do it after you install computers.

ALLER: We had to do a network because of the AP wire being distributed to the four newsrooms, so that was the driving force. But down the road we'll have the E-mail; we'll have the communication; we'll have file-sharing; we'll have lots of different network software programs all sitting in the central file server that we can download on an as-needed basis rather than everybody having to have four disks of Windows and Pagemaker and Innovision, and you load them in and you wait, you know. You just pull down the whole kit-and-kaboodle into your one machine. That's the theory. We don't have that in practice yet. That's next year.

AUMENTE: We found that the first newsroom that we put in was not networked and that was the biggest complaint coming from faculty and students. It was not networked because of budget reasons. We got the hardware and then we needed another $15,000 to hardwire it for networking. This one coming in now is going to be networked before we even go in. The other one is going to be networked. There are some plans to network the whole bulding. The other thing we found that you have to watch is the file server that you buy for this. For instance, we were looking at some AT&T equipment and found that, in fact, the file server that we were thinking about could only really handle 10 units effectively and yet with the Apple Mac operation we can handle 25 or up to 50 kinds of things. So you've got to really watch — well, the software is important — but the ability of your backup, whether you're using minis or in some cases you may be going into a mainframe. You might want to check to find out whether your university or college has enough capacity to handle some of your overload to a mainframe and a telephone connection.

Choosing software:

First pick your word processor

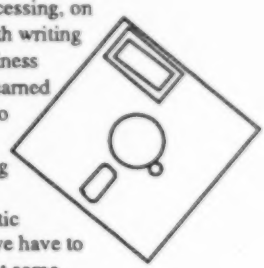


William Oates of University of Miami, who chaired the session, began by admitting that he was not entirely comfortable about beginning the conference with sessions about buying hardware and picking software:

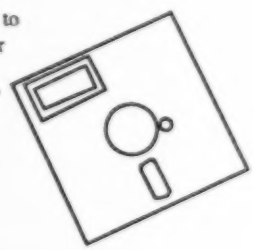
Those are nuts and bolts issues that I guess we have grapple with, but I think there are larger issues, and I'm going to talk a little bit about those rather than talk about the nuts and bolts of a particular word processor that I happen to use and it's PC-Write. Then I'll say a few things about that.

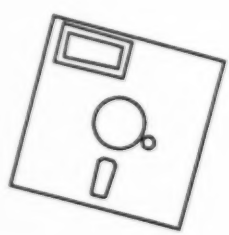
But whatever you get you're going to have to teach writing with it. And we know there's no more consensus on how to teach writing with computers than there is on how to teach writing itself. So we have some work to do in that area, and I think that's the more important area no matter what word processor you end up with. I assume you're here because you believe that there's something different about teaching writing with word processors and on computers and there's something to learn about that subject in this area. I think there's a lot to learn in that subject and that challenge of how to teach writing with word processing technology is the important one.

To write is not to do word processing, a fallacy that maybe two-thirds of you may fall into. I fell into it and it takes some experience with teaching with a word processor and experience with your using it and your students using it before you get beyond the level of using it as an electric typewriter and using it to really get at this something different about teaching writing with a word processor. It's more than an electric typewriter. Word processing, on the other hand, has little to do with writing on the surface. It's taught in business education and secretaries have learned word processing and know how to type with the word processor wonderfully, and that's something different than writing.

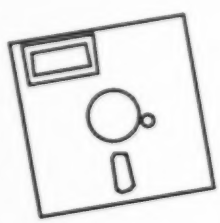


There is some synergistic combination of these skills that we have to deal with in and that involve what some people call "computer writing." There's a different modality altogether, and we have to help develop strategies for teaching and for helping students write better through this matrix of things called "computer writing" — things you couldn't do before: experimenting by moving sentences and paragraphs around to look at different organizations for different kinds of coherence; saving portions of writing in different files; saving idea files to use later and moving in and out of pieces of writing that are being worked on; outlining strategies where you put together the structural piece and then you can work on any part of the story in any order that you wish by just typing into the appropriate place.





(You can adopt) specific strategies like using the find or search feature to search on the period and then you do this on a separate file — copy your file to a different file, search on the period and each time it finds it, hit the carriage return and then you can look at your story one sentence at a time. You stack the sentences up; you can look at them and compare them — even visually — by length. Do you have variety in the length? You can see that. Do they all seem to start the same? You can visualize that much more readily because they are all starting on the



left margin. You can see a lot of things about the writing. You can look at each individual sentence more sensibly for completeness. Strategies like this will help improve writing or computer writing by bringing together the facilities of word processing and what we deal with in teaching writing. There are other techniques — some pretty far out — one called "invisible writing" where you turn off the monitor. One problem is students get hung up on the mechanics of the word processor and this inhibits their ability to write, so you have a screen in which you can write and then you turn off the monitor. Your computer's still on and you can sit there and write invisible writing. You don't even see what you're writing. You don't have to be concerned with the mechanics of the word processor. It's going to do the wordwrap and keep going. You don't have to hit return at the end of the line, and then after you've gotten some material down there without the (distraction) of the word processor, you turn the monitor back on, you can edit what you have if you have typos — misspellings — whatever.

> *"To write is not to do word processing, a fallacy that maybe two-thirds of you may fall into. I fell into it ..."*
>
> **William Oates**

There are various kinds of strategies for group writing. I sometimes in my class play a game I call "musical computers" where at some point in the writing exercise we all get up and move left by one computer. We might save a version but let somebody else work over what another person had done, improve that, and after doing that two or three times we got the skill and intelligence of three or four students on a piece. Then we look at that piece — it ought to be fairly refined — we can find things in it yet and that's kind of fun and has some things to say for it.

We need as teachers to be intimate enough with the word processor to guide students in learning word processing techniques that are useful in writing . . . Sort of what I'm saying here is it doesn't matter what word processor you choose. It may matter a little, but the larger issue — what matters more — is how familiar with the word processor you use you get, what mastery you have over it, and what strategies you develop to create this matrix of what is important in writing and what you can do with word processing to develop new strategies and procedures for writing.

QUESTION: *Do you require word processing or a computer course before they get into a writing class?*
OATES: No, we do not, and few journalism schools do. I'm not sure I would recommend it. However, if all you do is have one week or two week introduction to the word processor and all they learn is how to insert, delete, a few of the simple things and then you go off and teach your newswriting class — you're probably only using all of this expensive technology as an electric typewriter, and the real advantages of improving writing and new strategies for helping students develop their own independent strategies for doing compurter writing — you're not tapping into that yet. And we need work at reaching that level of using word processors in ways that really enhance their writing and their learning to write and developing their independent strategies for doing that. Okay, I'm sure I've said enough about that.

The next speaker — and why don't I introduce all of the remaining speakers at the table. I may come back and say a little bit about PC-Write, which I use at the University of Miami. It's what is used here at Syracuse, and I think you'll have the opportunity to see that and use that. And we'll turn to the heart of the scheduled program and talk about specific word processors — first, with Carolyn Mullins on my left, from Virginia Tech; followed by Helen Aller on my far right from the University of Florida, and she will talk about a specific word processor used there — that's Xy-Write; and Ken Tompkins beside me is from the Syracuse Newspapers — they use that. It wasn't intended that the program be so unbalanced with the two people representing Xy-Write. We would have sought more balance, but Carolyn Mullins has worked with probably virtually every word processor that exists and she will share some of that information with you now.

CAROLYN MULLINS, who teaches at the Virginia Polytechnic Institute in Blacksburg, Va.:

Unlike Bill, I would argue that from one perspective, yes, it doesn't make a difference. You can teach writing with any word processor out there on the market. I've done it. I know so. You don't even need to have the same one in your classroom. I routinely have 15 or 20 being used across my sections every term.

From another perspective, though, what you choose does make a difference, and what I want to give you is four major points that I think about when I'm advising Virginia Tech on purchases, based on my five years in the classroom using these little beasties, and a couple of others that may be important to some of you. The major ones for me are: cost and purchase arrangement; ease of use; ease of file-sharing for analysis and other purposes; ease of grading — there are some very important considerations there. The two minor ones are — and again this would depend on your campus — how usable is the word processor by the print-handicapped person. I have a blind colleague who is grading entirely on disk and it has not been easy getting to that stage, and he has a blind student this term who is doing all of her writing on disks. These two blind people are communicating entirely by other PC-disks. Then there is another minor point that I think is important and that's the vendor. User-friendliness ought to be extended to consider vendor-friendliness as well. If you do as much word processing interviewing as I do, you come to the very quick realization — the companies have different personalities, and you can form some very strong opinions about which vendors you want to deal with, because when you have problems you've got to have somebody to go to.

Okay. Back to my first point. What about cost and various purchase arrangements and why do I think that's important. Well, I didn't think it ws important until three years ago when one of my 4-foot-10-and-a-half business

you can form some very strong opinions about which vendors you really want to deal with most of all, because when you have problems you've got to have somebody to go to.

OK, back to my first point. What about cost and various purchase arrangements and why do I think that's important. Well, I didn't think it was important until three years ago when one of my 4-foot-10-and-a-half business majors, weighing in at probably 93 pounds wringing wet, was chased from one of the PC labs all the way back to her dormitory at 4 in the morning. She had simply lost track of the the time. She didn't have her own copy of the software so she was having to use it in one of the centralized university labs. Virginia Tech is in bucolic Blacksburg, Va., but that does not mean we do not have people who have nefarious ideas on their minds about what they wish to do with young ladies at 4 in the morning. This young lady happened to be a member of the cross-country team and easily outran the 6-foot-4 guy chasing her, but it made me think seriously.

If I'm going to require my students to use software, I want them to have software that they can have access to either personally in their room or on labs that are in their dormitories. We already have one 300-PC laboratory in one of our dormitories in our common dormitory complex. So from now on at least my female students don't need to worry about that problem. At this point we have 11,000 PCs on the campus and in the hands of students. We probably don't have an apartment unit in the vicinity that does not have a PC somewhere around, but with some of the specialized software that is a real problem, and I'm still fighting for what I call "site licenses."

If you are buying software and have not bought it in bulk before, I strongly recommend considering software costs and arrangements from the standpoint of site licenses or bulk purchase that will allow the students as much as possible to have their own copies in their own rooms on their own equipment. And if you can't arrange that, plan your laboratory setup so that they're conveniently located to dormitory settings. You've got to have stuff that is in a location where your female students (can use them) in the middle of the night — and when else do students finish papers after all, I mean there is no other time — papers are not born in the daytime; they're like babies in that respect.

> *"If I'm going to require my students to use software, I want them to have software that they can have access to either in their rooms or in labs that are in their dormitories."*
>
> **Carolyn Mullins**

The second point is ease of use — training and support — things like how much time do I have to spend supporting one package over another with my students. Copy protection is an extremely important part of this. There are a lot of products out there that are copy protected. They may not be in the version that you would buy on the retail market, but the version you would buy for students is. Some of the software that is sold to universities — one of the things they do not tell you is that it's copy protected — unless you ask. You find it out when you try to back up your disk or somebody crunches your disk.

I had a student come in yesterday morning and say, "Mrs. Mullins, my paper is going to be late."

I said, "What happened to you?"

"Well, I fell down on the ice on the steps and I crushed my floppy disk."

And I said, "Didn't you have a backup copy?"

"Yes, but it was on the same disk."

"Mark, what did I tell you about that?"

"You said, `Do a second disk and keep it in somebody else's room.'"

Well, in any case, once you're dealing with a copy protected product, you're dealing with difficulty in getting another copy when a student kills a disk or when a laboratory disk dies — and it happens all the time. From the standpoint of supporting these things myself, of all the word processors that I've had my students use — and I've had Wordstar, Wordperfect, Microsoft word, Multimate, Office writer, PC-Write, Volkswriter — you-name-it, I've had it — I'll nominate Volkswriter, preferably in the 2.2 version as the easiest of all the products to support.

I really don't have time to teach word processing in my classrooms. I expect my students to pick it up on their own. I will help them out with specific things, and I do know the products well enough — you can usually help them over the phone with problems. But here's the system I run. If someone has a problem, I devote five minutes at the beginning of class — you know, do you have any Volkswriter problems?

And someone will stand up. "Yes, I can't get it to do running heads." And I say, "Who's got the running head working?" And someone stands up and they lecture for a minute-and-a-half, and that solves the problem. I've got to have the product that I can support like that. The other thing I do is like once my list settles down at the beginning of every term I pass out a piece of paper and students write down on it their name, their telephone number, the word processor they're going to use, and anything else they think they know anything about. I run that through a ditto master. I pass that back out to the students, and they've got instant support. They don't have to call me if they using, something like Wordstar — God forbid, but many of them do — they at least know who else in the room is using Wordstar and they can usually reach that person by phone. I've been supporting software that way now for five years, and I will still say — although it's not my favorite word processor (I would rather, for personal purposes, work with Volkswriter and usually in the Deluxe version) — that Volkswriter 2.2 is the one that I have found hands down the easiest to support and train. Our copies on the campus have been copy protected but we have negotiated that away for next year. We have finally just had it. We told (the vendor) either you get rid of the copy protection or we get rid of you, and it's amazing how much of an impact that made.

File-sharing and analysis is important because we are concerned about being able to move the files the students create in a word processor into a desktop publisher, for

"If you have a network, you have to make sure that whatever word processor you pick will run on the network."

Helen Aller

instance. There are versions of Leading Edge out on the market that flatly don't write out into an ASCII file, and if you can't write it out into an ASCII file or if you don't have the IBM DCA conversion facility, you can't move it anywhere. One or the other — you've got to be able to have.

So I tell my students the one requirement I've got is that they've got to be able to get it out into a form where the style checkers that I use with my students can work on their files. Now there are some of those checkers — RightWriter is one of them — that automatically do any translation. I can feed with my RightWriter any Wordperfect file or any Microsoft word file and it doesn't even hiccup. It digests it happily; it spits out its analysis. I mean, the whole thing turns out and asks each of my students to go back and edit the original copy. If they're using Volkswriter it leaves the commands in the file all untouched and they can go right back and work directly on their analyzed file. So I'm concerned mostly about getting my students to be able to use spelling and style checkers, but in the spring when I teach documentation design I'm going to be concerned — as you people would be in newswriting — about having students able to move their products into desktop publishers.

Something else — the ease of grading. What am I looking at there? I'm looking at factors like the windows so that you can have a comment file up and also have the student's paper up. Or, if you're using a product like Volkswriter which does not have the window splitting feature, can you do something else that will allow you make comments without having to keep moving out of the student's file back to another file? Well, Volkswriter has a really neat note pad facility. You can write a note, mark it as a block of text, and write it directly out to a note pad. And, unlike most other word processors that have this facility, a second note does not overwrite the first note, and the third doesn't overwrite the second. You can append them 1, 2, 3, 4, 5, so at the end of the term if you choose to build a comment file of your students' weaknesses you can collect those.

You also need some form of way of putting notes imbedded directly in a file. One of the problems with word processors, apart from the fact that you can't take them lots of places if you want to read (papers), is that you can't write in the margins. Well, Volkswriter has a neat superscript subscript thing that when you invoke it, what you get on the screen — you can go into a second line— and it will go blink, blink, blink, blink, blink, blink, and you can control whether you want the blinking on or off. We start when we're grading on disks — we put our notes in using this particular facility and then if the student seems to be ignoring the notes on the second or third paper we turn the blink on. Then when they put their disk back in they cannot ignore our comments. We've also found a neat little technique for being able to make sure they read all their comments. We don't put the grades anywhere except buried in the final comment file. They never know where their grade is going to be, so we've gotten to the point we can be sure that they're going to read all the comments that we write unless they happen to be lucky and guess the first time around which one of many sets of comments we stuck our notes into. And you want to try several programs from that perspective. Can you make individual notes and overall cumulative notes that will allow you to work with a student over the course of a term?

Those are the main points that I think about. And then the couple of minor ones — we're using Volkswriter right now in part because it works with the voice synthesizer and a translator called Freedom One — my colleague is using the Freedom One — and Volkswriter works perfectly with it. We are trying very hard to get Microsoft Word to work with it. We're having a lot of trouble — Microsoft recently, in fact just last week, sent my colleague a copy of software — 3.1 was supposed to work and it didn't. If you've never heard a voice synthesizer swear, I recommend that to you as an experience. When you put Microsoft Word on it, the minute it hangs up and you do an Alt, Control, Delete, the thing goes "Oh, X."

And then finally — vendor cooperation. We've gotten a lot of cooperation from the Life-tree people. Those of you that have worked with various vendors know what I'm talking about. Some of them will work with you; some of them you call and you can hang on hold for 15 minutes while they try to locate somebody. Some of these vendors will make a special person available to you; others will not.

I leave you with one final thought: Whatever you choose today you're going to want something else next year. That's just the way the market is going. So whatever you choose today, don't consider that you've gotten it for ever. Consider that for at most two years it's going to work for you.

HELEN ALLER of the University of Florida: I was asked sort of at the last minute to join this panel after an informal bull session last night about Xy-Write, the advantages and disadvantages. I have not used Xy-Write myself so, I can't talk about the details; I can tell you about the experience of my students, and I think Indiana had had some problems with Xy-Write in which the students found it too difficult. I'm just here to testify that my students really take to it quickly and easily, and I think for the most part, the faculty as well.

In my videotex editing class last term, part of the lab assignment was to create a document on Xy-Write and give me some output, and within about two hours every student was using it, even the ones that were terrified of computers. They sat down and said, "This is easy. That's all there is to it." So we really didn't have any problem. Some of our graduate faculty just love it. They say it's so powerful and it really does everything they could ever want it to do. And then some of our basic writing and editing faculty — at first, I think, did not like because they said it was a little kind of overkill. It gave you more than you needed.

We chose it because we needed it for our AP wire capture system which we wrote ourselves — that was written

with Xy-Write and with some programming language, but it was basically written in Xy-Write. And so if we wanted to have that program in our radio lab and our TV news rooms, then we also wanted the same program in the newspaper editing lab. And then we wanted the faculty to have the same thing so you wouldn't be going from each classroom and using a different word processor.

Unfortunately, it is expensive. We bought a site license for about $1,800, but what they don't tell you at first is that then you have to pay for every simultaneous user, which is $125, and that doesn't include the documentation, which is another $50. So it's about $175 per simultaneous user, so we tend to do about half of the work stations we pay for, because we figure everybody is not using it all the time. Whereas PC-Write or some other programs that we can get on state contract are very inexpensive. They're not always networkable, which is another factor. If you have a network you have to make sure that whatever word processor you pick will run on the network. That's another thing they don't tell you when you're planning the network is that not all the software out there by any means will run on it, and then others don't have network price structures set up where they'll even sell you a site license. They make you buy a copy per work station for a lab. You can get into astronomical figures.

TOMPKINS of the Syracuse Newspapers: As for Xy-Write, I don't speak for or against it — I didn't come to bury Caesar or praise him, I guess. My universe of working with word processing programs is limited now to just two programs — Xy-Write, which we have just more or less abandoned, and a new program which we've written for our machines. I'll explain. We did not leave — I don't think we left Xy-Write because we didn't like it, but because reporters had wanted something different as far as the capability of the PCs go.

"The more complicated the commands and the higher the likelihood that experimentation is going to lead to loss of my copy, then the more conservative story you're going to get."

Ken Tompkins

I'd better step back so I can tell you that I know very little about computers, very little about how they work, so I don't know how much use I'll be to you — except I can tell you probably how reporters use these machines in practice. I am a business writer. I've been so for about two years. We went to PCs about a year ago in the newsroom. I started in the bureau system with the Post Standard about four years ago and at that time I had little experience with word processors except for some small amounts of time in an editing class. Otherwise, I was strictly typewriter-trained in J-school. I've never worked on a typewriter at a newspaper; immediately it was word processors. So in just five years of newspaper writing I'm already kind of a dinosaur, because I think most students probably now are learning right from the start on word processors. At any rate, when I went to the bureau we started on a self-contained little tube that had small character capacity for copy. You could keep probably five or ten stories of 20 inches in length on there, and you'd have to start clearing older stories to make more room. But it was a modem system where the reporter would simply come in. You could write, you could insert, you could move blocks. It took a little more doing than the main frame system we have, which is the Composition Systems mainframe. But, you know, things are not explained to reporters. Someone in the room is going to show you how to use that thing. You're going to get your copy done.

From there I came into the newsroom where everybody wants to work on the mainframe, of course, because they're very sophisticated. You can split the screens, eventually making it into two little tubes, and you can merge stories, which a reporter frequently has to do. If I have a story on the State Public Service Commission and NiMo II, a nuclear plant we're building near here which I write about frequently, that's something that's written about state-wide. So If I have a story I'm working on locally, there will also be an AP story coming in, and I've got to look at that to make sure essentially that I haven't forgot elements in my story, or they may have found information that I should have in my story. I'll split my screen. I'll write my story and as I go along I'll call up versions from AP, from UPI, and even notes that I have kept in my tube and previous versions of my story — a very, very important capability to have.

At any rate, you can imagine that with a limited number of the mainframe tubes — they're very, very expensive, I understand — there's a great deal of competition for them in newsrooms. The editors need them because they have a lot of capability. They can write the headlines, they can split screens, they can create a number of different (programmed user keys) that allow them to quickly place things in copy that they couldn't do otherwise. Of course, editors have priority in any newsroom for tubes to edit copy.

What happened was we had a jam — our newsroom expanded as far as numbers of reporters and editors more quickly than the powers-that-be were willing to buy tubes, so there was always an argument about tube space. The solution, as it arose, was to buy 20 PCs. PCs, incidentally, were fairly new when I'd gone into the business, and the idea of using them in the newsroom still wasn't there yet. They were strictly the input tubes, isolated from system, and essentially as if I were in the bureau — still inside the newsroom. I'd have to use the modem to send my story into the mainframe, although I'd be sitting right next to a mainframe tube, but they figured that was capability enough for reporters. All we needed to be able to do was to write copy down, not fancy, and send it in. And they gave us some limited capacities: to insert rather than overstrike, to move blocks around, to split a screen — the screen splitting ability of Xy-Write anyway was very, very limited in our case and didn't really do us a lot of good; you could not really sit there and merge stories as well as you might like; and it was isolated from the wires and everything else.

As far as the ability to write on Xy-Write, it was a very simple program, I think, because now we've gone to the CSI link and that gets me back to where I started. We didn't

drop Xy-Write because we didn't like it, I don't think. We wanted to be linked directly to the mainframe computer. What happened, unfortunately, as I see it evolving — and this is really a new experience because I just had my tube linked to this mainframe last week, and I've been writing all week now on the new system — we call it CSI Link. I believe it was written by the people who came in and modified our CSI system at the same time — that was the main goal; they came in and they gave us Spell-check and other capacities the CSI system did not have earlier. At the same time we said, "Hey, could you hook our PCs to the system?" They said, "Sure, we can do it," and they did it. Coincidentally, they said, "Oh, you want it to be able to be used for writing, too." They sort of added those things on at the end without understanding what a reporter or someone who writes really needs.

So you have all sorts of really funny little things happening now. If you hit, for instance, Alternate P, that's how you get the end of the paragraph, where Xy-Write simply uses return and tab, much like it was on a typewriter. The problem is if you hit Control P — and Control is just above Alternate — you annihilate the program and everything on it. So you could be virtually through a story on a very tight deadline and blow everything out the window on yourself accidently and you can't get it back — there's just no fail-safe to it. So I'm learning this now as I go along.

Xy-Write was a good program, very easy to use. Now the problem as it evolved in the newsroom was it also wasn't used by the reporters. And I want to say just a couple things in general about word processing programs. As you hunt for the right one for your classroom, keep in mind that that student is going to into a newsroom that more than likely has a mainframe not unlike ours and they're going to seem very sexy to them, because they can split screens and they can do all sorts of fancy things that they couldn't do with their home PCs.

Now, another thing I think is important when you look at a program is to make sure it coincides with a typewriter as closely as possible. I learned on a typewriter. They still teach typing in high school. Now they call it keyboarding, I think, or something like that. The closer you keep me to a keyboard and what functions it uses, it's going to be much easier for me. If I can hit return and it ends the paragraph, and maybe have to tab — that's not illogical. The idea being to make sure the functions relate closely to an old typewriter keyboard.

The more complicated the commands and the higher the likelihood that experimentation on that machine is going to lead to loss of my copy, then the more conservative the story you're going to get. The less creative it's going to be. I'm going to write it down; I'm going to go slow, and I'm not going to change anything. I'm not going to move a sentence. I'm not going to move a paragraph around — which is really what you want people to do. I'm just going to get it done and I'm going to say, "Man, I hope this thing stays 'til I get to the last paragraph and then I'm going to send it as soon as I can." So that's really what you've got to think about. Thanks.

OATES: Since we started this session 15 to 20 minutes late, we're going to go 5 to 10 minutes late to give at least a few people with burning issues and questions the chance to ask them or comment. Before we do that I have to say something about PC-Write because it has one advantage over everything else that you've heard about and that is it's free. It's a genre of software culture called shareware. It does have a copyright, but you can copy it freely. The supplier encourages you to copy it and distribute it freely. This, in fact, is the distribution and marketing system of shareware. You copy it and you distribute it for free, and somewhere along the line the company that distributes it in this way, Quicksoft, has gotten several thousand people willing to send their money because they like the product that they got for free, and its user-supported software and it does a good job. It's a good word processor. You can make multiple copies of it. You can give every student a copy of it, and that's all I say about it because we are so short on time. But it's for the IBM PC and compatibles, it's PC-write. You can get a copy of it from me, from Joan Deppa or from lots of people. It's the word processor of choice at Harvard and a large number of universities because of this virtue of being free.

Now we have a few minutes to entertain comments or questions. A few people here are really brand new to this area, and some of these names of word processors they haven't even heard before. I know from conversations. You've heard PC-Write, Volkswriter, Xy-write. Who uses a different word processor? What's the name of what you use? Microsoft Word — let's just get the names out here. Wordperfect. Wordstar. Freestyle. Anything else? H and P Slate. Anybody want to ask any of those people about any of those products and their experience with it? Any of those people want to say something about what they use?

WOMAN IN AUDIENCE volunteered that she uses Microsoft Word:

I use 3.1, which is the latest on that one — I think. There's one nice thing about it. Persons using Freestyle probably got it first because of the outline editing in it, which is a terrific feature. Microsoft 3.0 acquired that. The save unformatted feature in Microsoft does give you this capability of translating its use to anything.

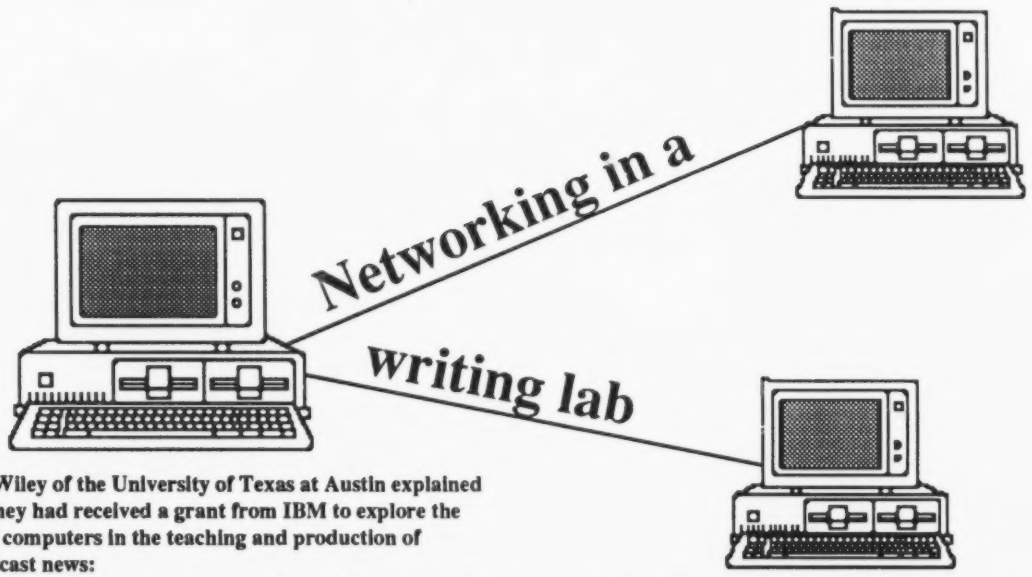
OATES: It has great capabilities I've used for any comments.

UNIDENTIFIED WOMAN: You can have up to eight comments. It has also got a hidden comment thing. You can type in your comment — this hidden thing has a little double arrow that the students key on the screen that you've got a hidden comment in there. It's probably too slow on standard PCs. You pretty much have to have an AT to work at reasonable speed.

Man from the audience asked about helping students keep commands straight.

MULLINS: Do you notice that partly schizophrenic look about me? I tell my students when God starts handing out coprocessors for brains I'm going to apply for one with a multi-toggle switch. The major things you remember. That's not really a problem. The minor things — I keep the books in my office and I tell my students, if you don't trust my answer, you are welcome to come to down to my office and look it up. And that's basically how I handle it.

TOMPKINS: When you change programs for your PCs, does anyone here today actually mark the keys or do they hand out sheets that say where the keys are? What they've done at work is use the headline waxer, and you just run it through the photo thing, wax it, cut little things out and change over. That might help a little bit by literally having them on the keyboard.



Gale Wiley of the University of Texas at Austin explained that they had received a grant from IBM to explore the use of computers in the teaching and production of broadcast news:

And unlike others who may not be so keen on IBM, I'm pretty happy to have been associated with them and still be associated with them. They've been very good to us and although I have no allegiance one way or the other to IBM, they have supported us fully and given us a lot of cooperation. I think the best thing to do is just to show you what we're doing and we'll go from there.

We started in May of 1985 when I first really got involved with computers. Before that I played with my son's Atari computer but really didn't know very much about it. What I did was I went to several broadcasting conventions, and I saw a lot of hardware and software and I was convinced that we could do with our computers what the big boys did.

At any rate, I learned the IBM DOS operating system and I read a lot of manuals and I got one machine and played with it until I learned as much as I could, and then I wrote my proposal. In other words, I had had some knowledge base. And then what I did was I just dreamed up what I thought would be the maximum system for me.

In Florida, I'm sure, the committee really came up with what the best system was for their needs. They looked at money. They looked at what their design criteria was and that's what they came up with. And essentially that's what I did. I looked at the equipment that was available out there and looked at the software and I said this is what I want to do.

We have12 students in a classroom, and there are a whole bunch of reasons for that. We found 12 is about the right number especially for our advanced classes. Now this number could be greater. We didn't want a lab where the kids are just sitting and looking at machines. We wanted to have the professor as part of the loop — that's what I call it. In other words, the professor is very keyed to this thing. There's no reason to get rid of the professor just because we have computers, so we lecture with machines running and kids taking notes and being very interactive with us.

At each work station the students have a color monitor and they also have a (second screen) here to the side, and I'll explain that in a little bit. And they have their own printer. And we've found that students like to run drafts of their copy and we felt that having their local printer was important. They also have two other printers available to them on the network. One is their high speed printer that we use for large type in broadcast, which we use for scripts, and then we have a daisy wheel printer for essays, and kids come in at night and crank out their essays and so on for their other classes. All of these are interconnected using PC-Net and, in other words, the students can communicate to any other station. They can communicate to the professor.

There is an AP computer which reads the wire 24 hours a day. We have up to 900 stories in the wire at any one time and anyone on the network can pull the wire from their machine or from any other machine on the network. This is the server that we have set up and it's one of actually five servers that we have on the network and we're adding two more this summer. And this server is an AT server which essentially becomes the communication hub for the network, and we call it the editor-professor terminal, and this is where the professor can look at students' copy.

We have a program that was written by network user from another school and it allows me, for example, to sit at this machine and while the kids are working I can look over their shoulders electronically. So Mary, let's say, is over in the corner and she says, "Will you look at my lead? And I just type Netcall 1 and *bam* I'm looking at Mary's copy. We don't let the computer take over human functions. In other words, if I want to talk to Mary, I say, "Well, Mary, I like this lead and we'll work together." And our keyboards become interactive. In other words, she can type and I can type simultaneously and write on the copy.

And talk about an exciting way to teach — it changes your whole way of working. You don't have to get up, for one thing. And another thing, is you can move about the classroom very, very easily and it's very exciting. It's so different from what I used to do as a teacher. In a sense it's very active. We don't have paper in front of us. They're interacting with me so they're getting theoretically the best part of me — not my physical presence, but my mind — after all that's theoretically what I've been hired for.

We added three more ATs, which are high speed computers — the big boys for IBM — and we have those in the professors' offices. I'm on the fifth floor and my other two colleagues are on the seventh floor. They too are connected

by the network. And, talking about difficulties putting the system in and so on, my son and I did the cables. I was having trouble getting people to help me out and so on, and so one afternoon this summer my son and I just laid the cable and put it in. So it doesn't require, I don't think, any great expertise to do.

In any event we ran a cable up to the fifth and seventh floors and we have two XTs that are in the TV and Radio control rooms. They're also on the network. This means that if, let's say, this classroom is busy and the professor is lecturing we have two more machines where students can still pull out their stories from the server.

They also have access to us in our offices. Let's say they're doing a story for my radio class — a student on one of the XTs from anywhere on the network can message me on the fifth floor and say, "I have a story I want you to look at." And then I just simply pull it up using the network. I make any changes, any deletions, whatever, and the student can get my response immediately. I can confer with professors. I can also leave mail for anyone on the network in an AT down below.

Additionally, my home now is linked to the network, and using a program called Crosstalk and remote I have the ability to call up the network from my home and grade students' work, to read the wire, to look over their shoulders electronically. I don't even have to go to work anymore. And so, I can call up the lab and the way I have it hooked is the modem is hooked up to my fifth floor office and the computer is left in a remote access mode. I call the AT in my office and then I can take charge of the network and read through the copy.

So for the radio show that I produce I dial up the lab from my home. It hooks me up to this computer — and essentially my keyboard at home becomes the keyboard for this machine. I take charge of this machine and I go down to the server, pull up the students' copy, which should all be in the network; it goes through my machine to my home — all the files are dumped at home. I make any additions, deletions, corrections, suggestions for changing their copy and it's automatically sent back to the computer, back to the server. As far as the kids are concerned, I've been there all along — when in fact I'm sitting at home drinking a cup of coffee and sitting in my pajamas.

And it really works. I haven't had any major problems. It took me a while to figure out some of the parameters, and so on, but it basically works. So altogether right now we have 20 machines, including my home machine, on the network. The two colleagues I work with are very jealous about my modem at home and they, too, now are going to put modems in their computers at home, and that means that we will essentially have a complete network where our location really would become irrelevant. We hope to get some convertible computers — these little portables — as well, and theoretically from here in Syracuse (I wanted to be able to tell you that I could do this but I don't have the machine yet) I'd be able to dial up the lab at school and make corrections and not have to physically be there.

Anyway, that's the overall system and what it looks like. These are the programs that reside on every student XT now that we have the 10 megabyte hard disk on each machine and the philosophy was that we wanted a high degree of redundancy in the system so that the students have all these programs available to them. They don't have to get these from a server; they're on their XT. We use a program called Private Tutor, which allows you essentially to do questions, multiple choice, true/false, and so on. And then PC Story Board, which is the program I'm using right now is another tutorial we use, and the students sitting at their terminal can look at the screen and you lecture at the same time, you have a very, very powerful blackboard, if you will, an animated blackboard.

The word processor we use is Writing Assistant. I have no love one way or the other for Writing Assistant. It's a good program. It's very easy to use. It has some drawbacks as every word processor has. We're thinking about possibly switching to Wordperfect. There is also a possibility we may just keep Writing Assistant. With PC-Write, you can change the function keys and make it look like other word processors. And what I'm going to do this summer is take PC-Write, which we also use on the system by the way, and modify it so it looks more like Writing Assistant.

But much like we've heard before — be prepared for change. It's one of these deals where if it works and if you find something better don't be afraid to change. We also have Filing and Reporting Assistant. It's basically a database, and I'll show you what you can do with a database. And this again could be any of the other database programs that are available.

> *"Ours is a bus system but I would suggest if you're looking at networks that you look at the token ring. That's the next generation of network."*
>
> **Gale Wiley**

Grammatik is what we're currently using to review kids' copy. It checks for style problems and so on, and you can program it so that in our case it's for broadcast — we look for cliches and so on. But we also have gotten another grant from AT&T and they've given us a lab basically which uses Work-Bench, and what we do is use a modem to reportover the kids' copy in ASCII form and we dump it into Work-Bench and it generates a report on each student's writing, and it's a little too early for me to tell you how that's going to work out. Again, we have to program it so that it will look at students' copy for broadcast problems not for print.

We also use Media Computing Wire Program. They're out of Phoenix, Ariz., and they use a combination of their wire program and Media Computing split-screen program, which is really PC-Write, and I'll show you how that works in a minute. We also use PC-Network, which is an IBM program.

Ours is a bus system but I would suggest if you're looking at networks that you look at the token ring. That's

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Gale Wiley

the next generation of network. Ours is already out-of-date, and the token ring is pretty much where IBM has put its bucks. You could also consider Ethernet.

What can we do with this? This is the bottom line which you're interested in. Here are all the things we do with the networks: We take notes, we have interactive lectures. When students are in class it's very peculiar now the way we work. When I lecture the students they don't look at me anymore. They're sitting away at their terminals clacking away and there's a kind of blue shadow on their faces as I lecture. And at first it was very intidimating and bothered me, but I realized that the students are indeed really involved. Their notes are better organized. They can save them on disks. They can print them out. It keeps thinkgs neat and orderly and some students will be writing love letters to their boyfriend or girlfriend — that often happens — but somehow I feel that the situation is more interactive and more exciting.

Another thing that I'm working on — this is using StoryBoard — I've invented a bunch of interactive tutorials which you can use either in lecture or you can use independently, and all the student does is call up the individual file — this is just a little lesson on the three heads on a tape recorder, which may seem like a trivial thing but it's very important in teaching broadcast trying to show students how to distinguish between record and playback. It used to take me quite a while to do on a blackboard and demonstrate all this and try to explain it, and I had to explain it over and over and over again. I just got fed up with it and it seemed like a reasonable thing to do was to write a little lesson so the students could go to the computer and it would show them.

OK, the next thing we do is write text which I think would be of interest to most of you. Here is Writing Assistant set for 30 characters wide for TV. This (story is by a student) by the name of Bertrand. Very simply, what he does is write this story and he saves it to his disk and saves it also to a server, and we can edit it from the server, send back comments to him for revisions and then he can move on. And that's the standard that we do all the time.

This is from Grammatik — we can take that copy and we can run it through Grammatik — basically it looks at the number of sentences, the number of words in the sentence, the average sentence length, the average word length. It can look at questions and paragraphs, the shortest sentence, the longest sentence, then number of "to be" constructions and then prepositions. What I did is I took a program called Graphing Assistant — it's another IBM program — and I think the next one will probably be a little bit more illustrative. Here we have 12 students all the way across with their initials, ac, ba, and so on, and the number of "to be" verbs found in a particular writing assignment. I just graphed it and then I did the same thing with prepositions. Well, very interestingly, I found that my minority students and my foreign students tend to have a greater use of prepositions. I wasn't looking for that; it just popped out in graphing this. I handed out the graph and I handed out the Grammatik results — it's the style-checker. I made no comment one way or the other. I just handed them the copy, and then I tracked this over the semester and I found that the students began to adjust according to what was the norm. In other words, they saw they had a pretty high preposition use — I didn't say it was good or bad; I just said here's the data. The kids automatically began to adjust.

OK, sending stories to the editor-professor. The students have many disk drives available to them. They have their A,B,C drives and then, in this case, our server's drive H. So when they go into H essentially they've got another computer available to them. So they can save their stories instead of saving it to C they save it to H: whatever the file name is. It's that simple. So what does that mean? That means that everyone has access to disk drive H. All the kids can save their copy to H. That's where I am. Or if I'm up in my office I call up H, so that becomes the server for the entire network. The same is true with disk drives E and F where our AP is. The kids don't see disk drives E and F. We've hidden that from them with the use of batch files.

It's like the ever-expanding universe. You can just keep adding disk drives and servers and the kids have access to those. So essentially it gives you a great deal of flexibility. You can add equipment or delete it as you wish. This is hundreds of thousands of bytes of available programs.

What we do on the XT — now some of you if you're not into computers, you may not be too involved in this — but this is the use of DOS, the Disk Operating System. Here, for example, on the C drive the students have each one of these sub-directories, and all they do is see the files that are in that sub-directory and nothing else. So, for example, John Doe is in Dr. Anderson's class. On his C drive he goes C: /J343A — which is that class. That is his file. When he types that into the computer all he's going to see is his stuff.

Let's say he has written a story called "Fire," what he'll do is write "Fire" on it, and we've also asked John to put his initials — in his case, JD. So that way we can distinguish Joe's fire story compared to Mary's fire story — so lets say it's Mary Smith, it would be "Fire.MS." And so if all the kids are doing a rewrite of a fire story and save it to the H disk in a sub-directory, I can call that up and I'll see "Fire" with all these different initials and immediately I can go through each story and make corrections or do my grading.

We also can read, print and edit AP stories. They're classified according to sports, general interest — you have your advisories, and so on — and state wire. The student merely scrolls down, picks out the story he or she wants, hits F1 and *voila*, you've got the whole version of the story. If you want to edit it, you hit F3 and then you go into word processor mode. This is PC-Write. So, the story that has transferred to PC-Write. We have another command that the kids go to the split-screen mode. The story then can be scrolled up at the top and it can be rewritten down below, so you have two computers if you will. This is a very natural

way for kids to work, so you can have the kid call up whatever file he wants up on the top and then respond to it down below.

Finally we produce radio and TV newscasts and here is our rundown program. It allows us to order the stories in the order we want. And then finally we have a teleprompter program so that the students write their stories; the editor edits them; kicks it back; the student does a little more rewrite; it's sent to a sub-directory; and it goes to the computer in the TV lab and this is read right off the TV monitor. So the kids really don't have to generate any paper at all for our teleprompter. And this is all fairly do-able, again with fairly conventional programming.

What advantages have there been for me? Well, it has changed entirely the way I interact with my students in the sense that I'm more available prehaps and more accountable than I've ever been before to my students. They can get to me in my office. They can get to me at home. But in a sense my time is better used because I can address the problem. I can deal with them obviously face-to-face, if I want to, but when it comes down to looking at their work and reacting to it, I can do it much more efficiently this way.

To give you a typical problem — one day I was sitting here at this server looking at students' copy and interacting with them. A professor on the seventh floor I knew could help me with a particular problem — we had a story that was potentially libelous for a radio show, I was concerned about it — I messaged him on the seventh floor and said, "Would you please look at this story." He was on the network. He got the story from the server, looked at it and zapped his comments to me. I saw his comments, made some adjustments, sent him a copy of the story, and I said, "Take a look at this." He made his comments and we were done with it — all in a matter of minutes.

My feeling about computers is this. Basically, they allow you to do things faster and I think in that respect they are very important. They also make you much more accountable. Now I find myself again available 24 hours a day and it puts a little bit more stress on me in some repects, but in other respects I think I'm doing a better job of teaching. After all, that's theoretically what it's all about, so I am delighted.

Question: Are each one of those students given a disk?
WILEY: No, there's none of that. All they do is they turn on the machine. It's all in batch files. They turn it on and the only prompt they see says "Do you want to join the network or not?" And you type "yes" or "no". Now they can work independent of the network and there are times when we want to do that. But if they want all the resources of the network they say "yes." As soon as they type "yes," then a series of (batch files is invoked that say:) "You have access to disk drive H; you have access to C." And it tells the student what's available to him or her, and then they're on the network. What we tried to do is make the system invisible to the students so they don't see any of the stuff going on in the background.

I agree with the comment that was made that students really, I don't think, need to learn programming or computers. They just want to use it as a tool, and we don't make a big deal about it.

A question was asked about security from sabotage.
WILEY: I've been asked this question many times. We do not make an issue of it. Well, maybe it's the nature of broadcasting students. They're very nosey and communications students have to be that way anyway, but it doesn't seem to be a problem. All their work is visible to everyone else, and the very first day they become acquainted with the system I say, "We had a student when we first started the system who wrote a torrid love letter to her boyfriend and it went into great detail about things that happened and so on." I deleted that from the system. I didn't embarrass the student, but I mention that to the class, and I tell them, "You know if you want to write something privately, I suggest you keep it on a floppy disk."

My attitude — everything is public domain, of course, except for my grades. They're in my machine hidden in a sub-directory that they have no way of gaining access to it — password protected, and so on. The data is all open to them as well. Now the program using DOS is (protected with the) ATTRIB function — you can block it so there's no way for them to write on top of the program, but we've done that with all the programs. To answer your question, we have not made an issue of it. Maybe somewhere down the line we will, but we have not found student sabotage of other students' copy.

A question was asked about the possibility of students working from their own computers with a gateway in to the system for them and, if so, why should they come to class?
WILEY: If things continue the way they're going... I think I already see it happening. There's a change happening in the way I deal with students and the way they deal with me. At first I resisted it, you know, I wanted the nice neat kids in a row and that's slowly changing. And why, really , why do they have to be there? I think they need to come to lecture. But for writing they're interested in my feedback on writing, not in my physical presence. So my answer to you is, yes, students are buying machines. The broadcasting industry is not real pleased with us because our kids are going out to small stations in Texas and they walk in the newsroom and they find a couple of old clunkers, you know, Smith Coronas or something, and they say, "Where's my computer?"

Question about whether Texas has a university-wide network and whether the system can tie into it:
WILEY: Well, we have one professor who has got a line hooked in from the main frame. We also have modems on our machines so we can dial up, and I just read, in fact on the flight here, that Hayes now has a modem that can be used on a network. So we're going to put a modem in one of the servers and hook up a line to it. We're considering using (the main frame) as our backup to just dump everything in our servers on a regular basis into it.

Question: Where do you get all the money?
WILEY: Again, IBM has been very helpful in this respect. Believe it or not, for this whole thing $1,500 is all we've spent so far. And IBM gave us all the equipment and all the software. The Media Computing Wire Program cost $1,500. Well, maybe we spent a little more — another couple hundred dollars for those remote control programs that allow me to communicate with the networks. I have no idea how much this would cost you if you went out and bought it, but it probably is in the $150,000 to $200,000 range, if my time were thrown in, because I've spent a lot of time on this.

How different is it?

Making the transition from typewriters to computers

Samuel V. Kennedy III, chairman of the Newspaper Department of the S.I. Newhouse School of Public Communications, Syracuse University, explained that the panel would be talking about the Newhouse experience in terms of writing by word processing:

The question of word processing in teaching is one that we grappled with last year and I guess from our experiences we felt that this conference might be helpful. We're going to direct most of our comments to those of you who are just getting into the game, but I do think that many of the things that we say may be helpful to some of you who are already in it. Let me start off by introducing the panel. Starting on my left at the end is Cleve Mathews, next to him John Mitchell, Bob Lloyd and Yolanda Wright. And we all have varying degrees of computer literacy, but I also know that we're not all going to agree during the course of this presentation. But it's all done in friendliness and to give you some different perspectives of how we view things from our experiences.

At the Newhouse School we take a considerable pride in the emphasis that we put on writing. And so when word processing became available to us we looked at it as a new tool and an exciting tool to try and help us to help our students to write better. Let me tell you about how many students we're talking about because that certainly influences what we do. We teach writing by word processing in our basic newswriting class which is called News 205. We have about 200 students a semester in that, mostly on the sophomore level. They have taken one Newhouse course before they come into the class. They all have finished freshman English. We have a typing requirement, which word processing requires as much as the old typewriter, and we got into the business in October of last year. We had hoped to start off the semester with our 20 IBM PCs. We were unable to get the room finished in time for reasons beyond our control really. So we had to start them on typewriters and then do a quick sidestep on to the computers, and surprisingly that really was not very difficult at all.

We organized that transition very carefully. We all learned together. We had faculty workshops — a couple of them — on Saturdays to get us up to speed, or at least a half a step ahead of our students. And I think we all emphasized to our students as we met this great adventure together, that we were learning together and we're not ashamed to say, "Gee I don't know about that but let's see if we can find out." To our surprise and delight there were a number of students who were already computer literate in the class and many of them either helped the other students or in some cases helped us to solve particular dilemmas.

We use PC-Write. We use it because we find that it is a quick and easy way to get our students into word processing. I guess I have come to believe that when people start talking about sophistication of programs, I start to hear the word complexity built into that, and so we were very interested in keeping it as simple as we could and still have the basic functions that we wanted that word processing offers vs. the electric typewriters. W developed our own tutorials because PC-Write did not have what we thought were good tutorials, if any. And Joan Deppa wrote some tutorials for us. We have modified those tutorials. We've broken them down into components. Each semester we tinker with them more and more.

Our IBM PCs are not networked. As you heard this morning, there are some great advantages to networking. There are some advantages to not having them networked as well, and one of those advantages is that you get a lot of one-on-one personal contact still in the classroom. After our initial success with the program, or with the class, the rest of the faculty of the Newhouse School began to drool a little bit and the next semester all our electronic students came in to use the IBM PCs in a course called TRF 245, and they're in there right now, as a matter of fact — or just were in there. And what this means for the Newhouse School is that virtually every student by the end of his sophomore year knows word processing, and I think some of the panelists will address some of the great benefits from that.

The needs we had in setting things up — I speak now as an administrator — were first of all, coordinating it and having a coordinator to do it. We also needed to decide on just the steps that we wanted to take to introduce our students to word processing. We decided that Exploring IBM, which is a program that comes with our IBMs, is rather simplistic but is fun, and so we thought that as a first introduction we would give our students to their PCs it would be fun. And a number of us now use the Exploring IBM in the

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Sam Kennedy

first class or the first part of the first class. Then we had our own tutorials. We also gave handouts that went out with the tutorials so that they would have a permanent copy of it, and then we also made sure that we provided free access time when classes were not in session, so that our students — if they didn't get it the first time — could on their own time go at their own pace.

One of the very gratifying things for me was that we have a faculty of 10 people ranging in all ages and genders and all everything, and we really didn't know how quickly our faculty were going to adapt to teaching by word processing. And I must say that every faculty member jumped in and really has enjoyed it very much, and very quickly got up to speed. The thrust of our use of the word processor remains on teaching writing. We have still problems that we are trying to confront: the fact that students do copy edit differently on terminals than they do on paper; that there are some kinds of errors that they make on computers that they don't make on paper and vice versa. Our present program has a top/bottom split screen which — if we had the ideal — we would like it to be side-by-side, or some of us would.

And the final thing that we had to do that worked out pretty well was to continue our typing test and we developed a little program for that which meets that particular need. We still have a number of needs that are ahead and a number of challenges, but, well, I think I'll just turn it over to the panel for their comments. And I would like to start, if I could, with Cleve. We'll try and keep our comments fairly brief so that we'll have some time for questions at the end.

CLEVE MATHEWS: I come to this from a slightly different perspective from some of the others. I was a mathematics major as an undergraduate, and I've been fascinated with computers a long time, and so I learned programming and manipulation of data and things like that before I ever got into word processing. I also share with Sam the job of teaching editing where we really use computers rather extensively. So when I do teach this News 205 Newswriting I'm always worried that I'm so fascinated myself that I'm going to make the students interested in the computers rather than in the writing, and I strive not to do that. But I do see faculty members sometimes get excited about it and they learn new things on the computer and they want to teach their students. So you do have to keep in mind the purpose of the course is writing and I do like to teach writing, whether it's by typewriters or by hand or by anything else, and I think that helps. But you do have to keep that in mind, and I think it works.

The second point that I wanted to make is the students enjoy this. It adds an element of fun to what is a kind of a hard course, and it does make it easier for them to take it, and they're a lot more willing to rewrite and to do new leads and to try different things, and I think the result of that is that they become better writers. They also are very quick to start applying this to the writing they do for other courses. It's quite common to see them in that lab during the open time writing term papers or papers for other courses, and I've had faculty in the other schools tell me that they do feel that the students who've been exposed to this do write better term papers and other kinds of papers for them too.

JOHN MITCHELL: I'm going to kind of run down some notes here that I put together on the basis of someone who still thinks fondly of manual typewriters. First, a negative that I and some other faculty members have found: We lose teaching time; the undergraduate beginning newswriting meets twice a week, two hours at a time — so-called self-contained periods. There's no separate lecture. You lose a minimum of two class meetings as far as teaching writing is concerned. It takes two to get them to where they can produce words on the machine with the Introduction to IBM and then with the PC tutorial and then they format their own disks. So that that creates certain problems.

And on breaking them in to actually using the machines I am convinced and I work very hard — I'm kind of echoing Cleve here — to not overload the students about the machines' capabilities, just step by step. Among other things if you try to overload them, they'll forget. I'm in favor of just getting them to the point of being able to put words on the screen, to use the cursor and the delete key, to play miniature Pac Man, to gobble up their errors and replace them with lack of errors, etc., and then also how to reformat their paragraphs, how to create new paragraphs when they have ones that are too long. And beyond that, the other capabilities like transposing paragraphs, and so on, let them get that as they encounter a need individually rather than everybody being taught at the same time.

Maybe the first need — at least in my experience, once they get beyond the basics of getting the words on the screen, is how to unmark copy. (Editor's note: "Marking copy" means saving it in temporary memory so that other operations, such as copying and moving text, can be performed.) I have two sections, and I have at least three students who manage every class session to start marking and they have no idea how they did it, and then their problem is how do you unmark and a summary outline of basic instructions is very, very helpful and Yolanda developed an excellent one. I just tell them: "Where's your three-page summary?" "Oh," they say, "Oh, that's how you do it."

Things they'll forget — at least in my classes with our machines: They'll forget to code in order to get double-spaced printout. But after about the third or fourth time an individual has done that — he or she gets that under control. Some will also will forget at least the first time or two to code to get any printout at all — the printer will run and the paper will go through and nothing on it. They will misprint the file name when they are coding to get the printout. In that case I have them call up their directory, see what they actually entered as the file name, write it down on a piece of paper, and then go back and read it off that piece of paper, put it on

the screen to code for the printout. It seems to work reasonably well. Another thing they will forget is to save what they've got on the screen. They will also forget to hit the keys to exit, which means they will pull the disk out, go to the printer and there will be nothing there. I have one student who did that four times before it registered that — oh, yes, they're saved, better exit. When they're having problems with the unit — with making it behave the way they want to — beat them severely about the head and shoulders if they are idly tapping the keys. I had one who managed to do that as a file and a half of nothing but division marks. She has no idea how she did it. Joan Deppa, who's our departmental expert, has no idea how she did it, but it's right there. The only problem is that it won't print out.

Don't touch their keyboards. Have them do it. It's a great temptation to jump in and say, "Do-do-do such-and-such," and all they know is that you went "do-do-do." They don't know really what you did. And if it involves something for which they have instructions, either a printed instruction sheet or if it's program instructions, don't tell them. Make them go to the instructions and get it themselves. When they solve their problem, I'm all in favor — echoing Sam a bit here — it's a game, you know. Give them a bingo or something that you know — hey, fine, you won this game.

And, again echoing Sam, don't be afraid to say the equivalent of, "Damned if I know," and find someone who can help bail both you and the student out. And one of the things with our faculty — anybody who is available will leave the office and come down and help bail me out, and that happens every so often.

KENNEDY: Thank you, John. Bob is a relatively new faculty member with us, having come to us from a Fort Worth newspaper, and, Bob, why don't you describe your experience.

BOB LLOYD: I'm the greenhorn. I walked in here as a visiting professor last year after spending six years in newspapers and knew I was going to do this for about nine months and then that was it, and somehow I found myself here for the second year in a row.

It was my experience, and I would say generally overall, that most of us found that the students adapted fairly easily to the program — that once that fear of the unknown was conquered that they could adapt and write just as easily on the computers as they could on the typewriters. I teach both the sophomore course and also a graduate course in basic newswriting, and I found that the sophomores adapted easier than the graduate students. I'm not sure why that happens, but perhaps they meet more often than the graduate students. But generally most of the students tell me, "Well, you know, I knew there was a time when I didn't know how to do this, but I can't remember when it was. It's such a natural experience to me right now that I feel very good about what I'm doing and I feel that I've mastered this computer, this word processing tool."

Just speaking strictly from going right from the field into teaching in a short space of time, I found the transition very easy — teaching with the word processor. I wouldn't say that I found the transition going from the field to teaching easy, but the transition to teaching with the word processor was pretty easy. I knew that working for a newspaper. In several of them I had to learn a new system each time I took a job, and so coming here and learning this system was not that frightening for me. And when students were having problems I could assure them, "Look, you know, if you just keep doing this over and over, you're going to conquer this monster here. You know, soon this will be like second nature," and that was easy for me to say because I've been there, so that was one advantage that I had. The disadvantages that I had was just my greenness and the fact that I wasn't as experienced as my colleagues up here in teaching.

But I did find a couple of things, some of the tricks I learned as a reporter working on a word processor, that I could also teach them. Later in the course when they were stuck on a lead -- my favorite trick when I was in the field was that if I couldn't figure out the lead, I'd just go down and write part of the body of the story that I knew was going to be there and work on the ending and then, hopefully, by the time I was through I could go back up and finish the lead. And so that trick works well with students. It would be more difficult working with a typewriter that way, you know, with several sheets of paper and putting what where. And this seemed to me to be a pretty easy thing to do.

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>
> **John Mitchell**

Also, in teaching how to make a story flow, one of the tricks that I found is that if I could say, talking to students, "Now, you know that you're going to use this quote and this quote and this quote, and what I want you to do is link these quotes together — lead into this quote and then lead out with this quote and lead back into this one, and to try to work on story flow. And basically what you can do is just have the quotes up on the screen and then come in and write the lead-ins or the introductions to the quotes to try to make them flow, and it's easier to see somehow with the word processor. Also, switching paragraphs back and forth. You know, in the field I used to do that a lot just to see if this worked better here or did this one work better, or was this stronger. I found that a lot easier too.

And the final thing that we've been having some sort of disagreement up here among ourselves is that I just found that copy editing marks were obsolete. I never used them. I was relatively young in the field and so when I started at newspapers, I never used them when I was on the newspapers. I used them sometimes back in the back shop, you know, but those are more the printer's marks than the actual copy editing marks. And so I just let my students know enough to tell them, "This is what I'm trying to do with your copy." But I'm not a real stickler on how they do now. Some people up here — when I told them that — they said, "Oh, so you're the one that's been teaching them that kind of thing." Yeah, I'm it

and I agree, they are pretty much unuseful at the moment.

YOLANDA WRIGHT: I always think of myself as the perfect example of "if I can do it, anybody can." And I think I approach my students in 205, the newswriting class, precisely that way. I think of my computer as a classy typewriter. I think it's the niftiest thing I own at home. I'm a freelance writer, and I write a column every week for the Herald-Journal, Syracuse's evening newspaper. And, you know, for years I've been teaching newswriting with manual typewriters here at SU, and what a treat it was to be able to walk into a classroom with computers and have 20 kids out in front of me not knowing anything about it at all, not knowing whether they would even survive. And that is one of the most exciting things, I think.

For example, this semester I have 20 students maximum. We have 20 computers and four printers down in the lab, as you probably have seen over in Newhouse basement. And out of the 20 kids I have in class this semester three of them are potential newspaper majors, so I've got 17 photography majors, PR majors, advertising majors — the kind of students that used to say to me, "Oh, gee, Professor Wright, we don't have to ever learn how to write a paragraph. We just know how to take pictures," and they kind of smile at you a lot. "All I'm ever going to do is write advertising copy. None of this really is relevant to me." And I would see a fall off every once in a while. You'd start with 20 in a class and maybe if you ended up with 16, sometimes 15, at the end of the semester, that was not unusual. Not a single dropout this semester — which I think is pretty good. It's not that I'm not going to give "D's" after the last class next Wednesday, and they know that. That doesn't concern us at all. By gosh, they're there and they're are smiling, and it's at 8:30 in the morning — if you can imagine anything more terrible — on a Monday morning. And they love it. It really works.

> *" I'm always worried that I'm so fascinated myself that I'm going to make the students interested in the computers rather than in the writing, and I strive not to do that."*
>
> **Cleve Mathews**

I teach it strictly as a writing course. I'm not concerned about a lot of fancy techniques. I'm pragmatic in all of this. I want something that works for them, and it will work for them because it works for me. Computers made me a better writer, and that's what I try to sell my students on. When it used to come to changing a single word somewhere in that copy or turning a sentence inside out, or transposing some graphs before computers (B.C.), I would think, "Oh rats, I'm going to have to retype this thing, or I'm going to have to do a lot of fancy editing. I'm not going to have clean copy to give my editor — it'll go. You know. If he wants to change it, you know, let him help himself. He probably won't touch it."

I'm a better writer today because I compose on a computer constantly. I do not tolerate any pencil marks going on writing out the lead ahead of time in my classroom. They compose right on the computer. They, of course, organize with an outline for a full story — you know a couple of words outlined kinds of things so they know what order they want the finished story to be in.

By the end of my second class at the beginning of the semester, everybody has handed me a story about himself and printed it — has written it and printed it right into the computer by the end of the second class. There's nothing fancy about it.

As John said, I think, because I'm print oriented — because the whole computer world was an absolute mystery to m. Out of self defense I suppose, and out of necessity, I thought, "Hey, I've got to have a chart that tells me where to go with PC-Write." It wasn't a program I was using on my computer at home, and so I designed a simple little thing that has pictures of the keys, and it says you punch this key and it does this for you. And the students just pulled that out at the beginning of the course at any rate — they don't need it by the end — but it's a big help and they just have something to go by. We do have tutorials, as Sam said, and my students use just the first tutorial. We don't get into any fancy window-swapping, as it were. That's not necessary in newswriting — in my class, anyway. But by the end of the semester they can produce spot news stories, features, profiles, accident stories, meeting stories — all that stuff that I was always having them produce, and then dying because they didn't have ribbons in their typewriters or the typewriter died. And this is just a dream actually, and I think you would enjoy it.

One thing I thought you might be interested in. When Sam asked me to be on this panel this week I had a class on Wednesday, and at the end of class they were finishing up another assignment, and I said, "Hey, if you don't mind, will you do me a favor. Write me a memo right now — I know you don't have time — don't worry how fancy it is, and print it and hand it to me if you feel like it, and tell me what you think about your experience in moving from a typewriter to a computer in this short semester that's coming to an end." So I just want to read you a couple of comments. I've got the whole batch of them, if you ever want, and I didn't have a single one that was not enthusiastic, which I think is surprising. Ordinarily I have some foot dragger, you know, somewhere along the line.

This is from a darling girl who's going to get a "C." Life is like that. "This is the toughest course in our curriculum, I think. Computers have saved my life in this class. I cannot type well and I was terrified of using a typewriter in class. Although my mother is a typing teacher, I don't seem to possess the desire to use one efficiently. I love using these computers. I find it very easy to work with, especially because I can correct mistakes and rearrange paragraphs at the touch of a button. Now I never use a typewriter. I use the school's computers to type everything that needs to be typed for all of my classes, and I've asked my parents to buy me one in the near future." We've created monsters. You know that, don't you?

Here's part of another one — I absolutely love it: "The pace at which the computer was introduced during classes was a help. Starting off slowly and gradually, doing more and more each time was a definite advantage for a beginner like myself. In this way I was not discouraged, and

if I was it was only for a short span of time."

Another one. "Learning how to write well was definitely the most valuable aspect of News 205. The computer, however, made the course more professional and finally got me into the technology of the '80s. I never thought I would say this, but next semester I'm looking forward to taking a course in FORTRAN." You see, it's just sort of a wonderful evolution. Lots of plusses; there are more of them who, you know, are talking about somebody's going to get one for Christmas.

"On these computers — it's a breeze. Because with the touch of a button or two we can totally restructure the stories you're working at so hard to produce. As a result of this easy method of correcting and styling, our stories are coming out much better, clearer and smoother than they might have otherwise." Now, of course, this fellow has no idea how they would have come out otherwise, but I think that's nice that he says that.

"I really enjoyed working on the computer this semester. At first I was intimidated because I had no experience. Now I find I'm really going to miss it. Not only did it save me time, it made my writing better and my typing faster and more efficient. I used to be very against computers because I thought they were making the world too impersonal. Now I've changed my mind. I asked for one for Christmas."

I've got 20 of these, and you're certainly welcome to look at them. And I think this probably says more than anything we can say. Two students in my class at the beginning of this semester out of the 20 had ever used computers before they walked into class — which I think is a very small number. Last semester I had more who were, as we say, computer literate or at least with more exposure to it. But this was a class with unusually little experience and unanimous acceptance of it.

> *"Computers made me a better writer, and that's what I try to sell my students on."*
>
> **Yolanda Wright**

MATHEWS: Yolanda refers to creating monsters and there is a potential monster problem that we are creating, and I think Sam hinted at it. All these sophomores are learning to use this thing and they're expecting to use it the rest of their time here at Newhouse, and so they're all going to crowd into our little rooms to do all their papers for all their courses from here on. So, soon we're going to have all of our students over there all clamoring to get in there, and we really haven't quite figured out how to handle that problem.

KENNEDY: The University is at work on computer clusters but not fast enough obviously for us. At this point I'd like to throw it open for questions or comments, and we'll answer any questions you might have.

Are all the stories written in the two-hour lab period?

WRIGHT: No, they're not. We write when we come to class. The format I use — and I'm not sure what other people do — is that I introduce the story. Sometimes they bring facts in that they've gathered outside of class and write the story in class, and the deadline will be the end of class when I'll get a printed story from each student. I also give outside of class assignments which can be typed. They can use typewriters, although I find probably three-fourths of them use computers on campus for those. They don't want to use typewriters any more. That's the trouble. One of these funny notes says: "My typewriter's been under my bed since you started this with me this semester."

I was wondering — so much of ours are done right in the two hours. With only four printers do you have to stop class in order to allow them (to print)?

WRIGHT: I haven't. We do a lot of moving around. The lucky person next to the printer is usually the one who usually has to stop, save the story and move to somebody's place. Whoever finishes first gets to go over and tap the one next to the printer on the shoulder, and that means you move.

LLOYD: We encourage everybody to keep a very good attitude about that too.

You mentioned before — this is a very basic one — you mentioned that you weren't networked so that you're on a disk operating system. Is there any interaction on that disk operating system between the instructor and the student? For instance, can the instructor see what the student is doing while the student is working?

MITCHELL: Well, we walk around and look at their screens — the same way with typewriters — walk around and look over their shoulders at their copy paper. But we can't call something up off their screen to a unit that we have, because there are 20 students and 20 machines. There isn't one available for the teacher.

KENNEDY: But they're not networked anyway.

Then everything is put on the hard copy and handed in?

MITCHELL: And that I'm very much in favor of because I still want to write notes — even letters — to them on the copy.

MATHEWS: May I add something to that? On at least one or two assignments a year I have them put right on the disk, and then I take their disk. And I have my grading program set so that I can very easily punch in the comments. I have programmed in all those comments that you use over and over and over. And so I do that at least once or twice so they get a sense of me looking at their copy on the disk and writing in my stuff. And when they come to class the next time the first thing they do is call that to the screen and go through and see. And it's usually something on which I'm going to require rewriting.

KENNEDY: Each one of us has his own style, as you can understand, and we have not really tried to make that uniform. I mean, some people like to work with hard copy; some put their comments right on the disk — they either bold face them or however they want to do them. The one capability we don't have is that as they are working on a story to call it up to an independent terminal and see them doing it at that point.

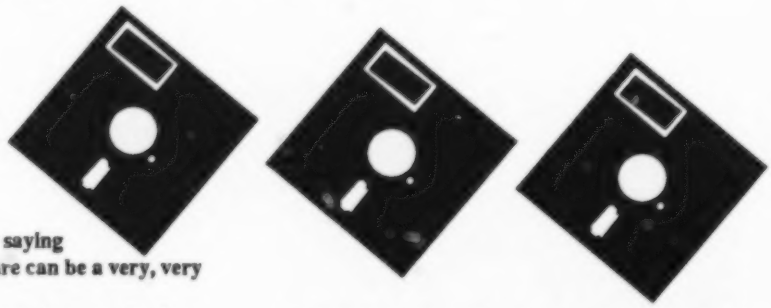
KENNEDY: Another question. Bill . . .
BILL OATES: It's not a question, but one comment — a cheap version of looking in on their work that I've tried: When you have an hour-long time limit, save the disk where they are at that point. It doesn't help the grading problem but on occasion (it gives you a sense of their progress).
MITCHELL: Do you have them print out each time that . . .
OATES: Yes. But I don't have them print it out at the time because I don't like to interfere with their writing process.
KENNEDY: Other questions . . . comments?
COMMENT from the floor: One thing I found that's helpful in using the computer, not from the students' point of view but from mine, (is that) I'm doing their grades now on a spread sheet, and I do that at midterm and then four weeks later and then at the end. And it is almost completely in our discussions about grades that for each assignment they ask the high average and low and they can see exactly where they stand in the class, and they love getting these things, and they don't argue.
MATHEWS: Well, I do that but I get a lot of arguments.
COMMENT: This may be the semester I get the arguments.

Has any of your life changed — your style of operation — outside the classroom?
MITCHELL: I think Sam's has. I don't think he has a typewriter in his office now. He got a computer and a printer. Mine hasn't changed at all — still the old-fashioned way. They did force an electric typewriter on me and — literally forced it — came in and said, "You can't have this typewriter you have there any more. You're getting a different one." It was electric.

Someone asked whether Newhouse has any creative writing courses and what effect, if any, the computer has had there.
MITCHELL: The Television, Radio, Film Department has at least one course in creative drams for TV, but all the other fiction writing here at SU is over in the writing program that's affiliated with the English Department. We do some feature writing which comes pretty close — in techniques.
COMMENT: I'm teaching creative writing and I use IBM PCs. I've had comments from my students — my second and third year students — who have said to me that the computer takes away from the creative aspect of writing fiction.
MATHEWS: Have you any of them say that it makes them more creative?
COMMENT: Not yet.
LLOYD: When I was working on newspapers, I was covering City Hall for about a year and dabbling mostly in hard news stories and felt very constrained and disappointed in the writing that I was doing, so that's when I was on my own and bought what's now a dinosaur (of a computer) but it still serves me pretty well. And so I was writing creatively at home just to have some sort of outlet and it didn't really change at all. I had no problems as far as doing it. I was just as bad at home as I was at the office.
KENNEDY: I'd like to make one quick comment that we do have a number of majors in the Newspaper Department who indeed are also in the creative writing program, either the dual program or taking courses over there. And one of the things that you begin to notice is that your colleagues in creative writing are saying, "Gee, these students seem to be writing on computer now and they seem to be writing better." And that's based on just a handful of students. But they certainly see it as an equally good creative tool. Bill.. .
OATES: I'd like to make one other comment in support of the computer as a creative writing tool. I spoke this morning about using it as a kind of typewriter. Once you have the facilities to work on you can do some things that that the typewriter cannot, you can do the creative thing. Beyond the things that I mentioned in newswriting this morning, the people in the area of English are doing things like using large block moves to experimentally seek different historical strategies, using search and replace commands to try different points of view — kind of a simple-minded way of editing — writing creatively I'm not sure where the thoughts come and go when you go through and change all your (sads) to happy or beautiful to ugly.
MATHEWS: If you do any writing of poetry, the computer is much, much better than a typewriter.
KENNEDY: Bob was talking about leads, and I was a writing coach this summer for a paper in this area. One of the things that we suggested, or I suggested to the professionals — and I also do it to the students — is not to settle on one lead. And on a word processor you can just write leads until they're coming out your ear for the same story and then take a look from the 10 or 12 that you generated which one seems to work the best. And as most of us know, if you've got that good lead it normally will organize the story. And you just wouldn't do that on paper. You might do one or two or three and then cross a couple out, but you're not going to just let it flow and see different ways that you could express the same thing.

I think in my private writing I have found something that I again pass on to my students. We all realize that we have certain problem areas; I like to call them that for want of a better way to describe them. One of mine is that and which, and I urge the students to identify those problem areas and then use that search function and challenge every time they are using the which or the whatever it is — the semi-colon, or whatever it is that's causing them particular problems. That's really a mechanical thing but I think, as Yolanda said, word processing opens up all kinds of new vistas to us, both for our own personal writing and for instruction, and there is a decided ability once you've discovered something in word processing to pass it along to your students, and I see a big interface there in terms of what I'm doing privately and what I'm doing as a teacher.

Evaluating educational software



William Oates of University of Miami, founder of the Clearinghouse for Computer-based Education in Journalism and Mass Communication, began by saying that evaluation of educational software can be a very, very complicated process:

I spent two years developing a software evaluation instrument with a committee of the National Council of Teachers of English for evaluating language arts software. We were dealing with not only general evaluation of computer software but what should be considered specifically in evaluating software for the language arts. We realized very quickly that you don't use the same software evaluation instrument to evaluate a word processor, for example, as you would use to evaluate some piece of instructional software. Then we also realized that there are a variety of genres of educational software, and you wouldn't try to evaluate in quite the same way a lesson that was a drill and practice kind of lesson vs. one that was a simulation or a tutorial or a discovery of learning application or an educational game. So when you talk about evaluating software and trying to develop an instrument, as we spent two years doing, it can get very complicated and very heavy and I don't think we really want to take it that far.

The instrument that we did develop is available. Before I forget it is 75 cents from the National Council of Teachers of English. (Editor's note: The address of the council is 1111 Kenyon Road, Urbana, IL 61801.) On that form you are asked to identify answers and questions about the piece of software that help you identify the genre and then are routed to different sections. You complete different sections of it to help you evaluate the software depending upon what kind of software it is. It may be more complicated than it needs to be, but it gives you an idea that it's not necessarily a straightforward task.

I'm going to emphasize just two or three key points on software evaluation. The computer as a medium of instruction and of communication is, indeed, a new medium and so key things you want to see going on in this medium are things that you can't do in other media. And if the software takes advantage of those things that are unique, then it's pretty good. But if it only, as Marshall McLuhan says, gives you a view of the future through a rear view mirror and tries to emulate a book or emulate some other medium and just putting it up on the computer instead, then probably the time and expense and effort to put it on the computer medium is not worth it.

If, in the jargon of the software development trade, it's just a page turner — you know, you press the button and it turns the page, it's probably still better off being in a book. It's a lot cheaper to produce a book than a page-turning software lesson. The exception to that, I guess, is what we talked about in a couple of workshops in creating lesson files where there's not a lot of learningand energy necessary to use a word processing file in some creative ways to present instructional material.

But if we're talking about developing instructional program software, that's likely to take a development team of some content experts — that might be you and your colleagues, some instructional design experts to guide the process, and a programmer. Most of software development efforts are team efforts, and there is a lot of time and expense involved. You want to be sure that it takes advantage of what you can do with the medium. The key thing that makes the computer medium different from all other media is that it is interactive. It's not linear like television, and the same content isn't necessarily presented to all comers as in a book or as television. It is responsive to the user in a variety of ways.

One, you want to have frequent interaction and response between the computer and the particular individual who's using it. One rule of thumb in software devlopment is that you should have at least one interaction per minute. You want this medium to be engaging — to engage the person who's using it in a very intimate and personal way. You want to stop after you've presented some material and ask a question of this person, this user. If a computer lesson just goes on and on spilling out, pouring out information like a lecturer or something, you're not taking advantage of the medium. You want to stop, you want to ask a question, you want a response from the person who's using the program, and one a minute — compared to some lessons — is actually kind of slow, perhaps.

When a program that you're evaluating or looking at responds, you want that response to the user to be meaningful and not gratuitous. There's lots of software that you will look at with gratuitous interaction — the old standard "atta-boy" kind of thing that may not really take the user very far. In a meaningful interaction part of that interaction includes branching, and depending upon the particular response, a good lesson will do different things subsequently with that user. So it's becoming tailored to that particular user differentially depending upon what responses the user is giving in those interactions. So a very rich lesson is going to have a lot of pathways programmed down it that any one user will never see, but depending upon how well the person is doing, whether they're getting these answers right, these answers wrong, they're being led down a different instruc-

tional pathway that is tailored precisely — or as precisely aspossible — to where they are. So the branching is not gratuitious, the interaction is not gratuitious, and it's meaningful in terms of the educational experience that is being sought for an individual with this particular set of responses.

Of course, you want to look at all these standard sorts of things that you look at with any instructional media, the appropriateness of the content and your ability to integrate this particular resource or this particular software material meaningfully into your course activities and your curriculum — what your expectations are. You all probably know that effective teaching requires the material that you're dealing with and presenting to some extent be your own. Teachers want and need a lot of autonomy and even if you're reading the other fellow's textbook — the one that you didn't have the students buy — to get your ideas, you have to work with that material and make it your own, and once you do that you're more effective in teaching.

One problem with using educational software, particularly off-the-shelf things, is that you may have difficulty making it your own. You may have difficulty seeing how you're going to integrate it into the sorts of things that you do and what your expectations are. Some of the better kinds of software will allow you to change it, will allow you to take the sort of a shell of the activity and adapt it. I was talking with Libby Fraas (of Eastern Kentucky University) just this morning about a package that I've looked at and I've used and I've tried it with the class, and I didn't do anything but use it the way it came off the shelf — a little game called "Grammar Examiner."

Libby was telling me how she had taken that game — it has the facility for you to — and adapted it. It's really a game, a sort of game board displayed on the screen, and you move pieces across this game board, and depending on what square you land on instead of being sent to jail or whatever in Monopoly, you know, you have to go edit a paragraph or do some kind of English grammatical sort of task to be able to advance or to do different sorts of things. And you're moving from a lowly beginning reporter at the beginning of the game board to the editor-in-chief position at the end of this trail of squares that you go through, and your salary gets raised along the way if you succeed, too.

I thought the game was pretty boring as it came off the shelf, but she has tailored the editing of the paragraph examples and some of the other exercises that happen on that game board to AP style and journalistic sorts of issues. And you can also redesign the game board, you know, put different kinds of squares in there, you know, if you want — 12 railroads instead of the 4 that Monopoly has — or whatever. You can also redesign the game board. So there's lots of flexibility there and I'm going to take a second look at "Grammar Examiner" now as soon as Libby sends me her modified version.

But a good piece of software will let you do things to it to make it your own, because it's actually quite rare that any off-the-shelf piece of software is precisely the thing that you want and that you use.

Oates was asked if his clearinghouse distributes that software.

OATES: "Grammar Examiner" is a commercial product that I cannot or don't, at least, distribute. On the software list that I'm going to distribute before we're done this morning, it is one of the items in the commercial software interest category and the vendor's address is there. What is possible that we might do and we might explore is if we develop some templates like the one Libby has worked on rather than everyone starting from scratch, we might be able to distribute those kinds of templates so that you can take it and everybody doesn't have to start from ground zero in making modifications to it. So that's an idea that I just had — Libby and I haven't talked about it. I just throw it out here in response to your question, but from the Clearinghouse perspective I'll be exploring both kinds of possibilities. Anyhow, the whole point of the Clearinghouse is to help make your job easier in adapting and using these kinds of resources, and if this is one way that we can do it, we're going to look into into it.

Your ability is really important because the studies that I have done have shown that the most important factor in the success of computer-based instructional materials helping student learning is the teacher. It's this issue of how well computer-based instructional materials are integrated into the normal expectation for the class by a teacher. We did this three-year study and analysis and kept all kinds of data on how much time students spend at the computer terminal and how many lessons out of the 53 topic curriculums that they completed on the computer and what their scores were on online tests, and all of this sort of data. We also kept data on some of the instructors' behaviors like: "Did you make it voluntary or required? Did you count their computer work toward the course grade, or was it just something that was available? How much did you communicate with your students through electronic mail during this exercise?" — in other words, the best measures we could find of how well teachers were integrating the materials into the normal expectations for the class. And that factor, that matrix of factors that constitutes the instructors' behaviors, accounted for more variance in how well students learned from computer-basedf instruction than any of the intrinsic computer student interaction variables did.

So the teacher is still the most important element in this whole process. The computer-based resources can empower you as a teacher, can let you take your students, you know, farther and give you more power and breadth to do lots more things. But you have to be the motivator and the source behind that. The analogy I sometimes make is the best book on a library shelf doesn't help students learn until it's integrated into the normal expectation for the class by a

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teacher. The same is true of computer-based educatrional materials and software. So that should help us take heart as teachers. This technology isn't in any way going to supplant us. It's instead going to empower us in some very interesting ways.

Let me say a little bit about the Clearinghouse specifically. By way of background, I've been in this computer-based education game since about 1974 and in the area of journalism and mass communication. I spent eight years doing work on the Plato Educational Computer Network before micros were developed. When they were developed in the early '80s, everybody could have a personal computer, a whole lot more people started getting into this game. And a few years ago — but not too many — lots of people started asking, "How can we get involved with computer-based education for journalism? Where can we find the sources to use?" A number of faculty members around the country started doing their own development for micros. I started transforming some of the Plato materials over to run on micros. And interest was growing and there was no place that anybody could particularly turn to get information or to get resources.

Resources were a problem, too, because while this was going on the commercial software publishers were neglecting the journalism and mass communications market in favor of more lucrative markets that were larger — English comes close to us in some ways. But again, there's a tailoring to this thing. It's close but not apt for lots of things. But chemistry, physics, math, computer science was where the bucks were being made by the commercial software publishers and we're too small a market to get much interest from them. Sadly, that's a fact that continues today.

I'll just share this letter with you. It's dated October 1986, so it's fairly recent. I had been talking to an author of a basic reporting text, who was going to be doing a revision, about the possibility of doing a workbook on a diskette to go with the text. Because if you're going to be teaching the writing with the word processor, why have a paper workbook and students have to type in and do the exercises? Why not put all the exercises on a diskette? They're sitting there with their word processors. They can integrate the exercises and all this. The letter he got back just in October of this year from his publisher says (This is from Harcourt Brace Jovanovitch and this isn't the only letter like this or message like this I've gotten): "Thank you for your letter about the software idea for your book. I have routed it to the members of the editorial boad so they will be aware of an interest in software among journalism instructors. Your idea is a good one, but many who failed the test in the college publishing industry to sell software have told us that we cannot earn a profit on it. HBJ has put a great deal of time and money into software development in the last five years only to discover that regardless of quality and appeal we can't sell enougb copies to break even, much less earn a profit on it. Hence, we have decided to stay out of software publishing for the time being."

So, faced with that kind of response from a publisher, it became clear that journalism educators would have to pick themselves up by their electronic bootstraps if we were going to reap some of the benefits of computer-based education. I made this argument a little over a year ago to the American Newspaper Publishers' Association Foundation, and they have been gracious enough to provide a grant to help subsidize the operation of the Clearinghouse.

I have a new updated software list from the Clearinghouse. There are four categories in which software is listed. The category is called juried software. The problem with getting software developed and available for journalism education and, indeed, education at the college level generally is not all the problem with the publishers. There is also the problem that faculty members (who) engage in this activity at many institutions don't get any credit for this kind of an activity. They put tenure and promotion at peril by spending time doing software development work for this field instead of spending their time writing scholarly journal articles. And so the one thing that the Clearinghouse is trying to do — at least in some small way — begin to chip away at that hidebound mentality, from my pejorative perspective at least. And the problem is "How Do You Evaluate Software?" and I guess that was the title of the talk here, so we get around to that again. How is anybody going to evaluate it? Journal articles appear following acceptance on the basis of peer review.

So we set in place a peer review process for software so that if someone, like a Joan Deppa and others who might spend time in this area, wants to get credit for this work, she can at least point to the fact that it has been peer reviewed. Actually she doesn't have anything on this list, but we have a product of hers out for review at the present time — the three reviewers in a blind process where her name is taken off the diskette and the members of the software review board review it, and we either accept it or reject it for distribution. More typically we suggest modifications that need to be made. And so not only do we chip away at the problem of academic credit but we also work toward having some sort of quality control and improvement in these products as they go out. So that's the first category.

The next category of software, non-commercial contributed software, is software that somebody's willing to make available to us and for one reason or another we just decide not to put it through the jurying process. Either it's from a faculty member who isn't seeking this kind of academic credit for providing it to other journalism educators or the nature of the product is such that we don't think it really qualifies for that. The tutorial for PC-Write, for example, while very valuable, the nature of that isn't quite the sort of thing that we might think about submitting for jurying and academic credit.

The third category of software is commercial

software. There are a number of journalism educators, notably Ken Rystrom at Virginia Tech and Wayne Danielson at Texas, who have developed software specifically for journalism education and have elected to sell it on their own. And so, instead of making it available at dirt cheap prices the way the first two categories are, another objective of the Clearinghouse is to make the stuff readily available at low cost so journalism educators can get it and use it. You can get through the Clearinghouse — because they're trying to provide a central site.

Now the last category of software I call "software of interest." We're looking for material that might apply to our field and we're trying to chip away at that as we can. But the activity of the Clearinghouse is as much an information clearing house as it is a software clearing house, because there are far more items listed here — they're not available through the Clearing House — but we try to stay up-to-date on commercial software that does exist that's out there that may be of interest instructionally for journalism educators.

Now there's a whole area of desktop publishing and other kinds of areas, and to date I haven't tried to review and include on this list subject matter that is covered in other arenas. If you want reviews of word processing packages, they're available to you in other ways. If you want reviews of desktop publishing packages, they're available to you in other ways. But nobody else is focusing upon instructional software for our field, and that's the focus now. Get control over that and more time and more support. We may try to expand and provide this kind of support and help and information in these other areas of generic tools. But the focus has been narrow.

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Let me mention just before we quit two or three other sources of information about software that I try to monitor but you might want to know about them because they're quite extensive and some of the better sources of information about educational software that exist. One is EPIE. It stands for Educational Products Information Exchange. The parent company of EPIE is Consumer Reports, and EPIE tries to be the "Consumer Reports" of educational software, if you will. And they have reviews of over 7,000 pieces of educational software at the present time. About 72 percent of the school districts in the country subscribe to EPIE. EPIE is available to you on-line through CompuServe. If you're a CompuServe subscriber, you can scan and search the data base of educational software reviews that are there. One thing to be cautioned about is that usually the reviews are positive. EPIE hasn't taken the courageous step of being particularly critical about what's good and what's bad, and they're quite brief. But what you will learn are some technical details about what equipment configuration it runs on or doesn't run on, whether it runs on a network or not, whether it requires color or not, what size memory is needed for this product and whether you can get a site license for it, you know, that kind of hard information about all these products you can get. And the other comments may not tell you a whole lot about quality — I think it gives a score like five reviewers reviewed it and three rated it A and two rated it C, or whatever — that's about it. A source of reviews that are more extensive — that, in fact, the reviews read like book reviews of software is Book List, which is a publication that librarians have gotten for years and reviews books and Book List sometime ago started reviewing software and you can find a lot of information about educational software from the reviews. Book List is a journal for librarians and probably it's available on your university campus — at the library — it's not in the collections — off the desks of people who run the library, and it has software reviews. A company that we're all familiar with from reporting days is Facts on File. The company that does "Facts on File" for editorial writers is now doing something called "Software on File," and what "Software on File" does is excerpt reviews of educational software that have appeared in a wide range of publications. Those are all some of the more thorough sources of information on educational software that you might want to tap into to do some further exploring in the big world of educational software on your own.

A question was raised about the economics of buying software. The questioner said that for a lab with 20 computers, commercial software even at $55 a copy was too expensive.

OATES: Well, your last sentence takes us in a different direction than maybe I would have responded to before. The Clearinghouse is a non-profit activity. We're not trying to make money. We're trying to stay afloat. ANPA Foundation has told me that even if I get a chunk of money for '87, that all of this is seed money, and the Clearinghouse if it continues will have to go on its own in future years at some point. And so we do charge a little bit for this software. But we're trying to keep things low cost; I'm not dealing at the moment with the economics of the marketplace. I'm just trying to help be a catalyst for journalism education in providing information and resources.

I think, despite the fact that costs are high, that given the nature of the business that we're in or that we represent — journalism, we must have respect for copyright law, and that it's probably too easy to be lazy about that and it's too tempting if you can pirate and make a copy of something. But I think you really need to pay for everything you use. It's really important from a matter of principle and for the last five or six years in educational software this has been a brouhaha topic and it's a topic where most of the educational world has come around to treating this subject responsibly although technically it is feasible to violate the law and fairly easy.

(Editor's note: This fall Oates left the University of Miami and the Clearinghouse was left without a home. He says he hopes the ANPA Foundation or others will find a way for its work to continue.)

The computer as an audio-visual tool

Gale Wiley of the University of Texas-Austin demonstrated how he uses PC Story Board as an audio-visual aid. He began by explaining that it was a so-called "presentation package" and many others are available:

I just suggest that you might consider some of these packages as a possible way to present information in an interesting way or that you lecture with the computer much like this kind of situation, or if you've got a network where all the screens can be changed at the same time. You might say, "How is that better than a blackboard?" It may not necessarily be better than a blackboard, but I think the trick is you use it in the best way possible. In other words if you've got a blackboard, you combine the blackboard and disk — whatever you need to do the job.

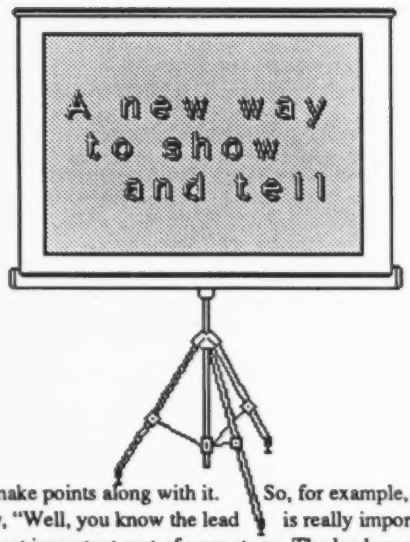
I've found that students respond well to this kind of thing, and it's a lot of fun to do. You might ask, "Well, how much time does it take?" Once you get good with one of these programs you can generate the stuff. You can do all these lights and animation and dissolves and crushes and all the rest of it very, very easily. You don't have to know a thing about programming.

My plan is to add digital audio to this so that I wouldn't even have to be here. Theoretically we could just have some speakers and all that would be required is a digital audio card, a graphics card, and the way it would work is that on the floppy disk would be the digital end of the video information. It probably would require several disks because when you digitize audio it takes a terrific amount of memory. (Editor's note: This summer Wiley demonstrated his first attempt at this for educators visiting University of Texas at Austin.)

What I'm going to do is go back to the more conventional tutorial and talk about that a little bit. This one is created with a program called Private Tutor, but you could simply create text files using a word processor and have the student pull up the file and lecture with that. That would be the cheapest way to go, and then the student could scroll down as you lecture. The benefit of that is that it beats a handout. Once you're done with it you don't have to go to the old trusty mimeograph machine. It's done forever theoretically and you can modify it . . . change the dates and so on. We do all of our exams and all of our handouts this way.

For example, if I have not created a tutorial I'll have a file on my machine in my office, and I'll just tell the kids "Pull the file down from my office." They zap it down from my office and then they have it on all their screens, and we all look at it at the same time. We do this regularly with our tests. We do this regularly with lectures.

In this case, what I thought I would do is just kind of walk you through this lesson on leads to give you an idea of what it's like to have a lesson like this. I'm conscious of a lot of journalists here — this is for broadcasting. Anyway, normally what I do is I have all the students call this up simultaneously on the machine, and then I'll either read with



it or I'll make points along with it. So, for example, I might say, "Well, you know the lead is really important. It's the most important part of your story. The lead must arouse interest, be uncomplicated, simple, be informative and completely accurate."

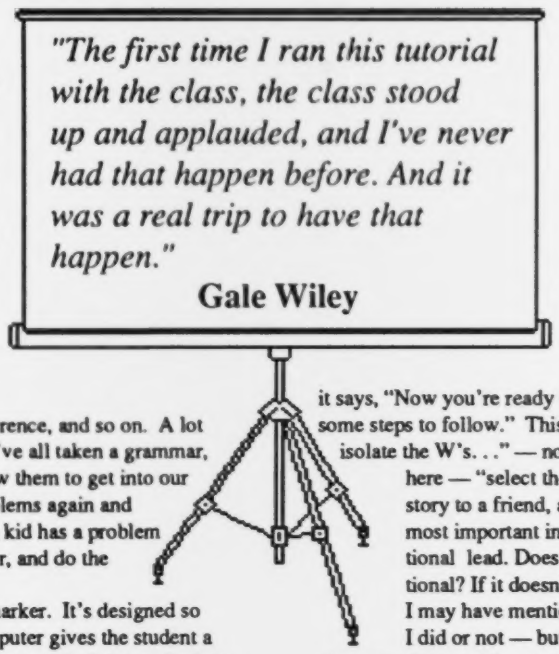
Now at that point I might jump away and ask students for some examples. And then I'd say, "Read the following newspaper lead." This is an incredibly awful lead for broadcast: "Since the start of the United Fund drive volunteer workers have raised $603,853 towards the 1981 goal of $3 million, it was announced yesterday at a campaign meeting in the Southern Hotel." I say, "How could you simplify this lead?" Now I don't let them go to the next frame — in other words, hit return. At this point we discuss. They can't see Page 2 and so I say to them, "How could you simplify this lead? What could you cut?" And so then I ask the class, and the class says, "Well, you know it was announced yesterday at a campaign meeting in the Southern Hotel that — you know — would we say that in broadcast? Probably not." And so the kids look at the text. They have the ability to print this out. They all have printers next to their machines, so if they wish to do a print screen, they do print screen and immediately get this and I tell them to scratch on the paper. (Probably the next step will be a split screen situation where the kids can write on one screen and read this on another.We haven't experimented with that yet, but I think it's do-able.)

So the students then go over this and then we go on to Page 2. I repeat the original sentence and I've blocked off those segments that the students might want to cut, and then I say, "Rewritten for radio the lead might look like this: Volunteer workers for the United Fund have already raised more than six-hundred-thousand dollars towards this year's goal of three-million. The campaign started Friday."

And then I show the students what has been blocked off and the kids then can check what they suggested as deletions vs. what the suggestion is here. At the same time they can read it or they can ignore it. And I say, "Note how less important details of place and time and location and

amount that were cut from the lead." And I say, "We've streamlined the money figure to 'more than six-hundred-thousand,' and so on." Well, these are subtle ways to teach them how to write for broadcast. And then I'll say, "Next page," and then all 12 kids hit the button and then we go to the next page. Now I test what we just lectured on, and so what I do is usually I have a couple of frames and then I ask the question, "Let's review what we just learned. The lead must do what? Arouse interest, be uncomplicated, be informative, be completely accurate, provide as much detail as possible — a, b, and c?" Okay, in this case the student answered 'c' and, using this program Private Tutor, I have answers for all these possibilities — if it's right or wrong, and they're also branching answers so if the student gets it wrong, you can give them a hint. You can say, "Well, not quite, but you know you can do this, this and this," and then the student goes back and tries again. In this case I set this up so if the answer is wrong, I tell them what the right answer is and then we move on. And then we go on to the next one, and usually I have two or three questions.

Usually what I do is ask the kids how they answered. If I see they're getting the material, there may a period when I'll say, "I'm just going to be quiet for a while. You go ahead a few frames." And then I'll go do something else and then they go ahead and advance. If a student is weak on leads, I send them to the lead exercise, and currently I'm writing one for dead wood (excess verbiage). Another problem I see continually is the problem of subject-verb agreement. Another is pronoun reference, and so on. A lot of this is basic grammar. Now they've all taken a grammar, spelling and punctuation test to allow them to get into our sequence, but we still see these problems again and again. So what do I do when I see a kid has a problem like that? I say, "Go to the computer, and do the tutorial."


"The first time I ran this tutorial with the class, the class stood up and applauded, and I've never had that happen before. And it was a real trip to have that happen."
Gale Wiley

And Private Tutor has a marker. It's designed so the student must log on and the computer gives the student a grade at the end of the tutorial. So I can go in later on, look at the log and see if Mary Smith got a 70, 85 — whatever it is. If Mary Smith gets a 30, then I intervene. And that seems to me to be a very powerful way to teach. Again, I'm using my time more effectively than I would be otherwise.

What I like to do after I've covered so may points is try to give one simple idea. (Something else I'm learning about doing tutorials is not to use too much text per page, and I'm trying to simplify it, make shorter sentences and have a lot more space.)

Anyway, here it says "Form follows function." If we're telling a funny story to a friend, we might delay the punch line which really may be the focus of the story like — "Hey, Fred, did you hear about the bald-headed bank teller?" A newscaster delivering the same story might lead with, "A bald Austin bank teller got trouble today." You're teasing your audience at that point, the story is funny but you want to delay the punch line. And so, what I try to tell the students is that the form of the story follows its function. If it's a joke, it's very logical to delay the lead.

We continue this idea and I say "You're a Capitol reporter in Austin, Texas, and the legislature has passed several major bills. The problem is we have all these bills that are reported — how are you going to cover this as a reporter? Well, if Fred came up to you and said, 'What happened in the legislature today?' and you said, 'It was incredible,' and he said, 'Yeah, they really had a busy day today,' there might be the subject of your lead: 'The legislature had a busy day today.' That would be very typical of a broadcast kind of lead.

How long does it take me to do this lesson? I guess once I figured out how to use part of the tutor, the big part of the problem is condensing everything that I could find about leads into about 50 frames; and then the next part was summarizing it and writing it as clearly as possible and putting it together. So it took me — I don't know — maybe over about a three-day period to finally get this thing done. Now, I was learning at that point. My second lesson took me about two days. The learning curve was working there, and now I can bat these suckers out as fast as I want to. You don't have to use the Private Tutor program. Again, this is just one program available on the market. There are many, many others.

Here I have a little graphics display that's supposed to be a notebook, and I try to be creative with it, and it says, "Now you're ready to write some leads. Here are some steps to follow." This says, "Read through your notes, isolate the W's. . ." — notice there's a lot of redundancy here — "select the news, pretend you're telling the story to a friend, arrange the five W's and the H the most important in the lead, write a short conversational lead. Does the lead work? Is it conversational? If it doesn't work, rewrite your lead." I may have mentioned this — I don't know whether I did or not — but the first time I ran this with the class, the class stood up and applauded, and I've never had that happen before. And it was a real trip to have that happen. It was exciting, and I find that students respond to this very well. The best way to handle it though is when the professor is working with the students. That way they get my feedback, they get the computer's feedback — which is the extra dimension — and it seems to work out pretty well.

We also use it for quizzes. This is a quiz on libel based on the AP Stylebook. It's automatically logged onto the computer. Another way to do it is to print it out. You can also get a printout and get a raw score at the end, and you can just write it down, and immediately it's graded. Our TAs love it. They can give the quizzes and get a response. Sometimes we have discussion on it; sometimes we don't. On a quiz like this the TA may go back, and the whole class run through the lesson again. Anyway those are some examples from Private Tutor.

Now here are some of the things we're trying with

StoryBoard and, again, I don't have any rule book to go by because nobody else has done this as far as I know — at least with StoryBoard. This is a VU (volume-audio) meter, which those of you in broadcasting are quite familiar with. It seems like a trivial thing but one of the biggest problems we have with kids is teaching them not to pin the needle. They have to learn that the VU meter indicates a certain level of sound reception into the machine they're recording into and have to learn where the needle should ride generally and what the general parameters are. So I've animated this. Now, again this may seem trivial but in a class situation in just a few seconds I can illustrate this, put it on 12 screens simultaneously — bam — the needle pins over. That is the end of that discussion. I never have to say again, "Don't pin the needle."

That may seem like a trivial thing too, but in broadcasting one of the problems we have is we have to say the same stuff over and over and over. And I don't know about you, but as a teacher that part of teaching I absolutely abhor. I'm not a robot. I'm a human being and I want to be treated that way, and I want my students to learn quickly and get done with it.

And then, here the needle is in roughly in the correct position and then there is a little text here. Now what I'll do is I'll animate this so that the needle will actually swing. And to animate that that's fairly easy to do so you can actually see the needle swinging. And I'll say, "Okay, here the needle has swung all the way over." Now when I add digital information to this we'll actually have audio samples, they'll put a headphone on, and they'll see the needle swing and they'll say, "This is too loud and this is distorted" and the needle will play them over. Again, once I've got that done I'll never have to do it again. If Mary comes up to me and says, "I still don't understand," I'll say, "Go to the computer and look up this file."

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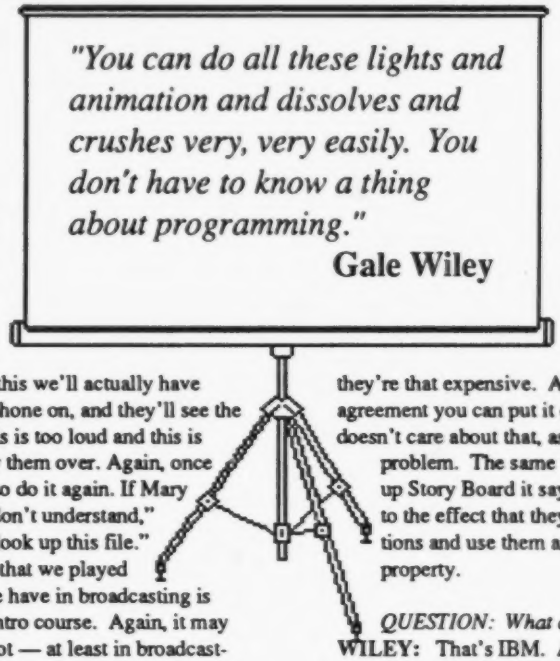


Here's some other stuff that we played around with. Another problem we have in broadcasting is teaching kids about plugs in our Intro course. Again, it may seem like a trivial thing, but it's not — at least in broadcasting. Kids get them confused, and I'll say, "You're supposed to use a mini plug with that machine," and they get a phono plug and they don't know the difference. Again, in just a few minutes I can (show) this.

Now you may say, "Well, why not have the textbook do this?" A textbook can do it. You know as well as I do you could have the kids read Chapters 1, 2, and 3. You can test them on it and they still won't know what those plugs are. That's been my experience anyway. And what we do is we show them these plugs physically, and then we're done with it, and so we don't have to do it over and over and over again.

QUESTION: Gale, what's the source of your visuals?
WILEY: I just did them — using Story Board. In other words, you can draw with this. You can make whatever pictures you want. You can bring up the text. It gives me a chance to be a frustrated artist, you know.

QUESTION: With the hand?
WILEY: No, it's using a cursor. For example, if we have time I'll show you some of these — like the boxes, it's just B, you just type 'B', and you get a window and you make a box. It's not unlike MacIntosh except you can use a mouse with it or you can use the cursor, either one. And then it's just a fill-in area like the hand there pushing the cassette in. You just do a fill function and it just fills it in. And so it's real simple. You can colorize and so on. And I have little faces. I even animate. And so, when I say "Play play back" or insert the tape, then the hand goes down pushes the cassette down, and so on. Again, the only limitation is your creativity. And it takes time in the beginning, but I feel the investment is worth the time. And, again, if our goal is to teach kids, then it seems to me this would be a good way.

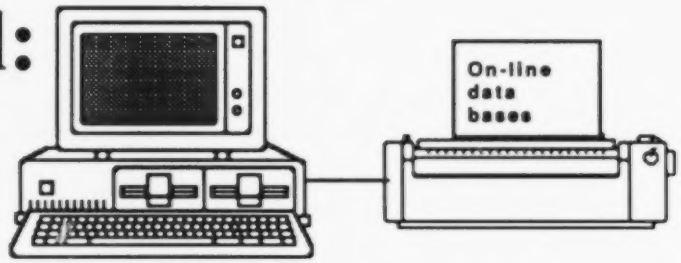
QUESTION: How much do your programs like Private Tutor and StoryBoard cost and what are the memory requirements?
WILEY: As far as I know — I wish I had the manual here for Story Board — I think it's like 256K maybe for Storyboard. I don't think it's more than that; it may be even less. For Private Tutor it's no problem at all, virtually none at all. You can run it on the lowliest of PCs. Private Tutor is pretty cheap. I don't know what the cost of these programs are because I got these for free. I don't think they're that expensive, relatively speaking. I'd be surprised if Private Tutor cost 50 bucks, not even that. I doubt they're that expensive. And once you've got one copy on the agreement you can put it on multiple machines, and IBM doesn't care about that, as far as I know. That's not a problem. The same with Story Board - when you boot up Story Board it says right at the beginning something to the effect that they don't care if you create presentations and use them and the fact that they're your property.

QUESTION: What company is that Private Tutor?
WILEY: That's IBM. Again, I don't want you to get the idea I'm selling IBM products. I can't. I got a grant and they gave me all the stuff to play with. And I urge you to look at others. There are many, many so-called tutorial programs available, and I suggest you look at them. They're easy to use and they're very effective, I think, for teaching. They'll work for PC, XT.

The biggest problem in the beginning is you'll find that you have to take whatever the subject is and you have to really be precise. It's not like doing notes where you can do a buck and wing, you know, up in front of the class. It's nitty-gritty, and it's really putting you on the line. It's not unlike writing a book, and in my case, you know, I'm working on tenure so I'm considering this a publication, and my dean says OK. And I think it's justified, because it represents everything I know about leads or whatever. Now this animated thing — I don't know if we can call that a publication or not. It's hard to know.

The computer as a reporting tool:

How Newsday uses data bases



Marianne Skinner, director of libraries for Newsday, began by recalling a book called "The Directory of Online Data Bases":

It started out in 1979 and it had about 400 data bases listed in it. By 1984 they had increased their listings to over 2,000 data bases. They have been adding two data bases a day. It gives you some idea of the kind of growth that data bases have had.

Some of the advantages of the data base are pretty obvious. One is the speed. The computer can scan hundreds of publications. It can scan hundreds of stories within minutes and it's a lot faster than looking through clips or printed indexes like The Reader's Guide or Psych Abstracts or anything else. We did a search — we were looking for stories by a man named Blumberg, who was a researcher in child abuse, (and found) combinations of about 550,000 abstracts. It took about two or three minutes to go and pull out all his citations, so right away (we had a) bibliography for the reporter. We don't have "Child Abuse Abstracts so it would have been difficult to do (manually).

The second thing that's really good about data bases is that they are thorough. They provide accesses to more indexes than any one place — a newspaper anyway or most public libraries — will have. Newsday couldn't afford the Child Abuse Abstracts. We wouldn't have ERIC. We wouldn't have the space even if we wanted to have them. We had basically Reader's Guide, abstracting services and things like that. It gives a whole thing that we just never had at our finger tips. You use it when you want it. You pay for it when you want it. That's why a lot of public libraries now are starting to use data bases and getting rid of some of their published indexes that they don't use very often.

It also has more immediacy than the printed indexes do, and full text data also. Things like Psych Abstracts are updated much more quickly on line than they are in the printed indexes, so you get all of that. You have things like Nexus and DataNews, which is a regional full-text data bases. The papers are in there a day or two after they are published. It works the same way for the numeric data bases. The government has lots of data bases and somehow they manage to supply the vendors with numbers before they can print them. So you get all these numbers a lot faster too.

A data base is a lot more flexible than any kind of printed index or just reading through a newspaper. One example is one of our reporters came in for clips on bone marrow transplants. Our clips on bone marrow transplants happen to be in bones and the file's about this thick and she had no idea when we did it, so she was going to look through this file because we just recently came on line and we haven't done any bone marrow transplant stories within the last six months.

It also gives you different key points. American Men and Women In Science is a good printed index. When they put it on line you have more access points. One of our reporters was doing a story on Krakatoa and he wanted someone who specialized in volcanoes. If you use American Men and Women In Science in the hard copy, you can look in the sciences and pore through it. On line they have specialty subjects so you can look under vulcanology and get a list of people, combine it with New York State if you don't want to make an out-of-state call, or you can put it with an area code or zip code.

The disadvantages pretty much follow the advantages except for the cost. If you have the money they'll find something for you, but it's going to be very expensive. Except for some consumer-oriented data bases like CompuServe and the Source and Dialog, data bases tend to be extremely expensive. The cheapest ones are the government-produced data bases that are available to the commercial vendors, and there's (a charge of) about $50 an hour maybe. Some of them go up to $250 to $300 an hour. They're also beginning to charge for typing citations, for typing reports.

Another problem is that each of the data bases have their own protocol for searching, so you have to learn all their search strategies; so if you were good on Dialog and then you got BRS because it was better in the sciences, you had to learn the BRS language and if you didn't use it very often, you were going to sit on line and play with it — you could run up very large bills. Nexis is another one that really soaks people. They used to have a weird pricing structure and they decided they didn't have enough of a market, so they decided they would change their pricing structure so that everyone would know how much it would cost. But when they did it they changed their pricing structure so now everyone can have it but you're going to pay lots of money. For example, now if you get on Nexis and you search one file, you can pay $21 or $31. If you decide you made a mistake and modify that search, you can pay another $15. If you still find nothing, that's your problem because you just paid $50 for a two-minute search. So if you misspell something, you're going to be charged for it, but you know how much you're going to be charged. I don't think it's a real advantage, but they did.

The scope of the data bases tends to make people expect that they can get anything on a data base. It's not the

"You have to make a distinction between what you can get on a data base and what you can't."

Marianne Skinner

magic instrument that some people and some reporters think it is. We have one reporter who calls up and says, "Press your magic button now and give me an answer to this." Well, it's not going to be on a data base and we're not going to spend money for it. You have to make a distinction with what you can get on a data base and what you can't. If you're looking for stories about the Bauhaus movement, a data base may not be the best place to go. It might be better to go to books on architecture, but sometimes people tend to like to play with computers too much and they like the expediency of it.

Data bases have only been around since the 60s — of any newspaper data base the Times is probably the oldest and they only have abstracts going back to 1969. So it doesn't have everything and people forget that. They think that if they're doing a story on the New York governors' relations with the press since Teddy Roosevelt that they can go on line and they're going to get stories that are going to tell them about Teddy Roosevelt. It's not going to work that way.

Also one of the problems is that it gives you so much more that people want so much more, so they seem to (feel that if it's) coming from The New York Times and they know they can have it, they want you to print it out right away. The costs run up very quickly, and sometimes reporters who are not being charged for this forget there is a budget involved in it, so you really have to be careful with the costs.

Another problems is browsing. I know that we do our home banking on a coputer and we also, at the same time, got Dow Jones, which has Compustore on it. My husband sat there and played with it, and we got a bill once — and I'm so used to looking at bills at Newsday and saying, "What did you do?" — that when he got the bill and I saw it was not really outrageous, I said to him, "What did you do?" and he said to me, "Don't make fun of me," and he wouldn't talk to me for two days.

I know that there a few papers and magazines that gave reporters access to the data bases — U.S. News did; The Philadelphia Inquirer did — and they had to take it away because the bills were just mounting up. They didn't really know how to search it well and would forget that they were online and would go away and come back and then they would browse through things, and it ran up really large bills.

A lot of times data bases will tell you that they're so easy that anyone can use then and Nexus did that with AP. In 1980, I think, they came up with a political data base, and they said, "So simple everyone can use," so Newsday took four passwords — one for our 12 department editorial pages, one for our Washington bureau, one for our news department, and one for the library. They got the bill after the first month and took all the IDs away because people, again, browsed and forgot and couldn't figure it out and thought they could just stay on line for hours at a time.

I'll tell you about Newsday. We have a main library in Melville. It has about 3,000 books. We have lots and lots of data bases. We have a dump tunnel, which is what we started with. When we started we had our data processing people hook our dump tunnel into our front-end system, so when we get stories and things we can download those right into (the electronic library) . Reporters can get the stories on line. It often means that our bureaus can pick up that way too. London is a little bit difficult because you can't do it yet. But if they're in doubt and they're in Boston or Atlanta they can pick up the stories from our front-end system that way. We have a Washington Bureau. They have a Nexis terminal and they are going to be getting an IBM so they can access some of the other data bases that they need. And we're just starting in the New York library and the New York librarian will have all the same data bases. So that's basically what we have.

I'm going to talk a bit about Dialog first. Dialog is probably one of the two largest suppliers of data bases and it offers access to over 200 files — mostly bibliographic, so you don't have the benefit of full text but you also don't have the price of full text. They're adding more and more full text data bases, in magazines basically, but they're very expensive. I think they're something like $12 to print out a citation plus your on-line costs. They do plan on adding more full text data bases because they're having a hard time, I think, competing with Nexis in that area. They range from government data bases to some of the defense data bases that are about $250. They're trying to cut down prices by offering an after-hours data base that certain limitations and you have to pay by credit card, so it's not good for everybody.

We use Dialog a lot but usually for citations, mostly either to get the citations from the magazines and newspapers we have or for investigative reports and for longterm series. We were doing a series on the aged and the question was something about tell us about the aged in the work force, and because we had Dialog we could go into . . . economic literature, management content, insurance abstracts for the business aspects of it; go into family resources, social science index, sociological abstracts, public affairs information service, the magazine index, the newspaper index, Psych Abstracts, and government publications and hearings. The whole thing took about 25 minutes, and then the reporter went through, picked it out and we either gave him what we had there or we have a fairly good inter-library loan system that they can get the citations and usually go get the publications, so it really makes it worthwhile. Before we weren't doing things like this, and I think the reason that our bills are high and it is tolerated is because management feels that it really ends up in a better product.

Ms. Skinner showed an example of a search looking for information on Nutrasweet, noting that one of the disadvantages is very literal:

If they spell Nutrasweet two ways and you put it in one way, you're only going to get it with your spelling. Here's one of the examples of what we do. The food people came in and wanted to know about souffles so we put it through a

newspaper index to see if could find any good recipes about souffles. In the past if you had to use newspaper indexes you would have had to look under food and hope that they had mentioned the word souffle ot that you could have figured it out. You can see that there's one there about "for the love of lemons" and it doesn't mention souffle any place in there, but somebody has picked it up in their indexing and we've gotten it. The reporters circle what they want and we print them off when we have the time.

BRS is a competitor to Dialog and they're basically more involved in medical literature. They have a lot of full text medical books on there. They're a little bit smaller and again they use different search commands, different search language, but they have a different concentration than Dialog. The prices are all flexible, too. We belong to two consortiums and we get special prices on Dialog and BRS. I also think that the other full text data bases probably would also make some kind of deal if they thought they could get an inroad into more journalism students — to let you learn how to do it.

Nexus is probably the most popular data base. It's the one that supposedly is easier to use, and it is because you don't have to learn a lot of search commmands. You can say, "Find New York and apples" and it will give you those stories. The problem is that most of the things in there are full text without indexing. Anyway, they don't have indexing, so it makes it kind of difficult to find stories. If you're trying to find the beneficial aspects of wine, you'd put in wine and health — or wine and whatever, you can get — which we've done — winos who are lying in the street and had their toes cut off because they froze.

It's probably more frustrating to get too many than it is to get none, because nobody wants to wade through 100 or 2,000 stories and if you make a mistake or if you don't put relationships between words, you can easily get that many.

But Nexis is basically the only one that's going to give you full text of everything there is. Besides all their publications, the newsmagazines and all that, they have Lexis, which is a legal data base with Supreme Court cases as well as law reviews, statutes, code of federal regulations, the federal register. We were trying to find something in the U.S. code about urban homesteading, and we looked through all the citations that we thought were applicable. We had enough key words but unfortunately the U.S. government doesn't always match up those key words. Now we've got enough that we can go on to Lexis, put in the few things that we really knew and come up with enough citations, then stop and go back and get the U.S. code, but it saved a lot of time rather than trying to use the index, which is very, very poor.

We won a Pulitzer for a Baby Jane Doe case that we did a few years ago, and the library was very important in that because they took the case and they asked us to find similar cases of that. We went on line and we put in, but they came up with enough cases that they sent reporters out to these places to interview parents, interview doctors and get a new perspective on it. At the time we didn't have Lexus, so we used our outside counsel to search for it. It was a lot more costly because, in addition to the search time, they charge you for consultation and because you can't narrow it down.

If you're doing a search long distance, it's hard to communicate with somebody what you want. If they're there with you and you're having trouble, you can come in, show them what you have and really pinpoint what they want. One of our reporters really likes it that way. He's an education writer and he always comes in with this great idea and you give him stories and he looks at a few of them and then he sees one thing that's different, and he says, "Oh, yeah. . .I think I'll go in that direction." And he starts back and you just search on that new thing that he thinks of, and he looks at those and there's one oddity in there, and he goes, "Oh, yeah.. that's better." It gives people good ideas. I think it gives them — maybe throws them off the track a little bit and makes them think of something new.

It also, because of the full text data base, lets you hone in on things very quickly. When they were doing one about the heart transplants one of our science writers came in and wanted to know a little piece of information about the operation. She had been looking through The Times' stories, and remembered what the device was called and we put the device thing in with heart transplants. Within minutes she had exactly the piece she wanted.

In our own inhouse data base, somebody came in who remembered that we wrote stories about the Magna Carta and the Statue of Liberty. Now, she could have looked in Statue of Liberty clips and since it was on the Fourth of July she would have been there forever. So instead we put in Magna Carta, and we hadn't done very much on the Magna Carta and it isolated exactly what she wanted.

We don't use Lexus all that much — only when we really have to. We used it another time when one of our prison inmates wanted an abortion and they wouldn't pay for it, and she was claiming that she was being discriminated against. They wanted to find similar cases like that. We do that a lot.

I told you earlier about DataTimes. We use the Miami Herald a lot for drug smuggling stories. Before we'd have to call them up, (and) they'd have to look at their clips. They 'd have to Federal Express. Now we punch it up on line and we have it. We also use things like The Seattle Times for air space. These are all local coverages but they gave us a better slant.

I was at an API (American Press Institute) seminar about electronic libraries, and there was a man there from the Lancaster paper, and he was a business manager who was in charge of the library. We were talking about data bases and the cost of commercial data bases and he said he saw no reason to have any of this; if you wanted, you could get a wire story. And somebody said, "Well, AP and UPI can't always give it to you." He said, "I'm an editor. If I call, they'll give

> *"It's probably more frustrating to get too many (citations) than it is to get none, because nobody wants to wade through 100 or 2,000 stories . . ."*
>
> **Marianne Skinner**

it to me." But they said, "But you don't get the local coverage." "He said, "But why do you need it?" So my point of view is if you really don't think you need it from anybody else then why are you bothering to cover anything. Why not run old wire stories from your local paper? It gives you a fresh slant that the wires aren't going to give you. It's better than whipping off a wire because if a reporter's there they have some experience to give you. There most people will agree. And more and more papers are going on so it really gives you a lot.

We use Dow Jones quite a bit. The Wall Street Journal has about the worst published index in the whole world, I think. I knew a reporter who was working there and he told me he didn't use the library because he couldn't get anything quick. He used to go to the bookstore down on the corner andhope that he could find what he needed there. When they went on line it made it a lot easier, and now they're coming out on Data-Times and the software is going to be even easier to use than it is. It's the only real way to get The Wall Street Journal.

"One of the major problems is training. Everybody has to be trained. They have to know what's available."

Marianne Skinner

There's another data base that is not a standard data base because you don't search it the same way. It's a data base that takes photographic assignments and they put them on line, so if you're looking for a picture of the robot who walked across the street in the Tokyo Expo, you can put in there that you are looking for it. It goes to most of the major agencies, and also freelancers tap into it so that they'll call you back and tell you they have it or they don't. They also give you travel schedules so you can find out if somebody is going to Sweden and if they're going to Sweden around the time you need them they can do something like that. One of the editors from Idaho called me up because we were one of the people using it for a while and said that he was thinking of not only buying pictures but going on there because they had the best collection of commodity pictures in the world. So if you need a commodity picture and you don't want a standard picture, you can get something from that. That's another reason that data bases are used and, I think, are valuable.

The Source and Compuserve are two data bases that are mostly for home use. They're good because you get cheap access to it and they have some of the wires. I think it's the Source that has AP. Reporters can scan that, especially when they're on the road. It does help them. (Editor's note: Both CompuServe and the Source have AP and the Source has virtually the entire service of UPI.)

One of the major non-text numeric data bases has over 90 data bases in aviation, economics, energy, finance, insurance, banking and international statistics. It's up all day and it's a time series. All it is is numbers and that's basically what it is — no text. You can pull them up in different formats. You can do analysis on it. It's one of the few data bases that really lets you do that. What I have here is something we call "The Long Island Stock Index," I think it is. Two years ago Newsday decided that they wanted to break into business (coverage) a little more heavily, I guess, and with the business department the library helped to develop a stock index. What we did was create a data base of all the Long Island stock companies that met certain criteria and we set them up in a data base and every week we'd pull them. It's a very popular feature. We have people calling in all the time asking why they're not in it or can they be in it or why is my stock off or how you do this. It has created a lot of interest in the paper.

Another data base that we use pretty heavily is called Legistech . Few people have heard that before. It's just voting, contribution tracking, lobbyist tracking, and we use it a lot. In addition to being able to track a vote, a bill, ask for contributions, to ask for lobbyists, you can also use it to find files. What we've often done — but I don't have a sample of it — is we've taken a group of assemblymen and senators; put them in by name; taken a group of bills like the seatbelt bill — the bottle bill — and some other things; run them together to see how they compare; to see who voted how and for what; then also gone back, taken the people who would be most concerned about the bottle bill like the liquor association and all that, made a group of them and put them in with the assemblymen to see if they've contributed to their campaign; and you can do a whole bunch of searching and analysis.

I think that's one of the keys to data bases. Besides giving you good information, it lets you manipulate data and get stories that you don't have other ways, because nobody's going to give it to you if can't find it yourself, and the computers will let you do it.

A question from the floor about the data base used to produce such stories:

SKINNER: A company called Legistech in New York State. They're in Albany now. This is how people voted; or didn't vote yes or no. Who contributes to D'Amato — not Alfonse, Armond - his brother? It saves a lot of time rather than going to Albany and hopin you're going to get somebody to do it.

This company has just started an agreement with Congressional Tracking, a service that does the same thing. We used them for the campaign contributions because we were in a rush and we got them, and we found out that they made a lot of mistakes — like they didn't spell anybody's name right; they had people from other places in there, so we're notreally quite sure how useful that's going to be, but it's something you really have to watch out for. The New York State one we know is pretty reliable and it's a lot faster than going to Albany to check anything out.

One of the ways to keep down costs is to make everyone aware of what the costs really are. The companies are also trying to do that. There are outside vendors that are developing software that let you search all the data bases with one command language or without knowing anything, and they have the advantage of letting you compile your search before you ever go on line and start spending money, letting

you know when you have it downloaded, of creating special bibliographies and things like that. But they let you structure it. The key to it all is just to structure your search before you go on line so you don't flounder around.

One of the real good sources of data — not necessarily in data bases — is public agencies. The federal government is probably the largest producer of data bases although they're not always available to the public. They're usually low cost when they are. The federal government, in addition to the data bases, has tapes and in some cases diskettes, and along with that they have data experts. And the data experts will tell you what's on the tape, how to manipulate the tape and what you can get. We've taken some of those tapes and we've mounted them on our computers to try and get some statistics. We bought the U.S. Census tape for our market research department. Unfortunately they didn't know what to do with them so they just didn't do anything with them. But it's a real good source of information and you get more than the government is going to tell you, so it's probably worth it.

There's voter registration in every county. For $200 you can buy all the voter registration tapes and they give you information such as the names, dates of birth, addresses, sex, the party enrollment, the election districts, and all that.

I think the real event is when people start creating their own (online data bases). When you create your own, the data is yours, you get to manipulate it, you get to have as many people use it as you want, and it's yours for free. When you have an inhouse data base you don't worry about costs except for your computer time, which is probably not anything too much to worry about. When you put your newspaper on there you can segment the whole thing. So all the bylines are there. When we start (new) reporters, the first thing I want to do is put in a byline file.

You can tell how many wire stories you've run. You can tell what you've run on the front page. You can tell where the dateline is from. We had a question during the Afghanistan crisis. Somebody wanted to know how many stories were coming out of Afghanistan. There were only, I think, two data bases — The Times and The Washington Post that you could do that with. They had a segment called Dateline and you could put in Dateline equals Kabul or Afghanistan or someplace like that and pull up all the stories that actually came from there. You can't do it with the newspaper unless you want to sit there and stare at every paper.

In addition to our inhouse system we've started putting things on other data bases. Here's a good example. This is information on community planning boards. We had all the information on birth weights, on how much people spent on garbage collection per capita, all sorts of systems, and one of our reporters who's a real computer expert decided to create a little data base using a special software. (She gave an example of how they they used the data in a feature on street cleaning.) What they tried to figure out was how much people were spending on garbage, who considered their streets clean and see if the people who spent the most had the cleanest streets. They did. And I think it turned out that the people who had the highest incomes had the cleanest streets. And the people who spent the most on garbage collection — it didn't matter because they didn't have the highest incomes. So it's the kind of thing that they would never get from the community planning boards. It's the kind of thing you'd never get just looking through reports but once you get the raw data and you enter it and you start to manipulate it, you can do all sorts of things with it.

We did it on a big series recently on problems we're having with housing. Old people were losing their houses because they had because they had missed one had missed one tax bill and they weren't aware of it. They took the tapes from the local government and they gave them to our data processing department, and for the first time data processing got a byline because they worked so hard on it and they did so much analysis and so much statistical work that they decided they really deserved it.

One of the major problems is training. Everybody has to be trained. They have to know what's available. CompuServe was available to our reporters in the Washington Bureau especially. The Washington Bureau chief told me that he used it when he was on the road because it was invaluable. He tried to tell his reporters they should use it and they said they didn't (want to) bother with the codes, so that nobody used it except for him. It's an invaluable source as long as people aren't afraid to use it, and that's basically what you have to convey.

If you start in with an inhouse data base people are trained on it to become much more aware of what it can do and what it can't do. All reporters are really aware of Nexis because they love Nexis searches, so when we start our inhouse data base they say to me, "It's just like Nexis," and then they sit down because they think Nexus is the simplest thing in the world because they've only seen it done. They sit down and they put in the words and you tell them what "and" means. They think that's one of the hardest concepts to understand. They (ask for two subjects connected by "and" they) really think they're going to get "either/or," and you can explain it and they sit there and say, "Yes." But (after) about 15 times when they're not getting what they want, it finally sinks in. And that's one of the things about data bases. You really have to know what you're doing. You are aware of how the data base is constructed and what its limitations are.

Someone asked about the costs of Dialog and whether there were training files for schools. They mentioned the special rates offered by Vutext.

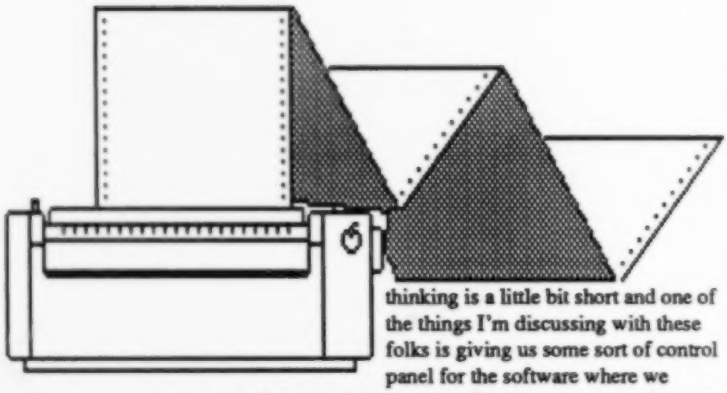
SKINNER: Oh good. Yes, Dialog has training files. They should make all their files available, I think. They do it in library schools too. They give the special $15 an hour, I think. I didn't know Vutext did that. I think it's good. I don't see any reason why Nexis wouldn't do it and DataTimes wouldn't do it either because they're all so competitive at this point. They're a good way to start.

Someone asked about what we should be teaching students.

SKINNER: I think it's important to train them right from the beginning and tell them it's money. That's one of the problems we have with reporters. They come in, and they're not paying for it because it's our budget and they're not going to be charged back for it. Only when you finally say to them, "It's going to cost $200. You find out from your editor if you really need it," do they go back and the editor usually says — not usually, but sometimes says, "No, it's crazy." We're thinking of putting out sheets of estimated costs to send to cost center heads and saying, "The reporter did this, and was it a deadline story," because they'll all lie — I don't mean to be mean but they will if they want something badly enough.

Coaching from the sidelines:

Using style and spelling checkers



Carolyn J. Mullins, who teaches technical writing at Virginia Polytechnic Institute in Blacksburg, Va., likened using style and spelling checkers to having a watchbird:

That watchbird is out there watching my students no matter what I'm doing, and I very much appreciate having that kind of aid. I teach mostly junior, senior, fifth-year coop students — largely students who are in technological majors of one sort or another. There are people in my department who use these checkers with freshmen and sophomores and some of the basic composition courses, apparently as successfully as I do. I admire them. I don't think I have the patience to teach freshmen. But my students have liked these checkers well enough that I will frequently get telephone calls from them or from their professors asking me where they or their students can get a hold of these checkers. They don't realize that because I put them in a public lab they are not restricted to the use of my students.

First of all, what is this kind of checking software? I started, of course, with a word processor, and for me it's got to be a word processor that will work directly with the style checkers without the students having to go through fancy (exporting) and other kinds of file changes to get the file into a format the checker can read. Or it has got to be something that will translate.

The spelling checkers I have all my students use — in fact, I tell my students there is no excuse for a misspelled word in a paper. It might be misspelled and be another word, for instance a student might have used "their" when he meant "there," and a spelling checker is not going to pick up that sort of thing. But by the time I've come across my second or third truly misspelled word, like "accommodate" with one "m," which I just got from a student who happens to be a 4.0 after four and a half years — that sort of thing is inexcusable. And when that happens I just hand the paper back to the student and say, "You check it. You proofread it. Then give it back to me. I'm not going to waste my time on it until I know you've done everything you can with it electronically."

I use two punctuation and style checkers regularly. One is RightWriter 2.0 from a company that has recently changed its name to Writesoft. It's a combination of grammar checking and style checking. It picks up your passive verbs. It also does things like diagnosing subject/verb disagreement. It will diagnose some pronoun reference ambiguity. It will pick up sentences longer than 22 words — which to my way of thinking is a little bit short and one of the things I'm discussing with these folks is giving us some sort of control panel for the software where we can say, "Look, we'd like to have long sentences not flagged until they have say 24, 25, 26 words" — depending on what we happen to think is useful, what level our students happen to be.

Also I use Grammatik. It is (licensed by)the Reference Software Co., which is run by a business professor out in San Francisco. They cleaned up that program quite a bit and they're starting to add some really neat things to it. One of the things that they are looking at — and I am watching with a very interested eye — is a dictionary compiled by a professor out in Hong Kong. He teaches English as a second language to Chinese students. We get an incredible number of foreign, Asian, Arabic and Jewish students from the Middle East. They come in; they don't have adequate English but there are some very characteristic usages you'll get from these students. You can do one of two things. You can put them through a writing course designed for them — and we have only one of those, not nearly enough to handle the load we've got. You can put them through the Writing Center on a regular basis and that absorbs people time like nothing else I can think of. Or you could put them on a software program that will at least pick up those usages and flag them and make them look them up in a dictionary. I can't do this yet because this dictionary is not available publicly, but the gentlemen who has the rights to the software now is trying to negotiate something with this professor to make this available as an auxiliary dictionary. When that is available I can assure you I'm going to be one of the first people in line with my hand up saying, "You know, I don't care what it costs I want to put my money on the line and get that," because it's a real problem.

All of these currently use MS DOS, and that happens to be the operating system we use at Virginia Tech — we have some Macintoshes too, but nowhere near as many as we have IBMs.

I use the software for five reasons. One is coaching — it catches errors or likely errors in students' papers and it uses "suggest" tactics; it does not make a change. It does a certain amount of drilling, and I find that particularly important with spelling. I've had a lot of teachers tell me they disapprove of spelling checkers because they think it allows the students to cheat, I've found just the opposite. What happens is — I've watched students work and it's very interesting. They will think they've misspelled the word. They'll look it up in the dictionary. They'll find that it's correct. They'll skip the words they didn't realize they weren't spelling correctly. There will be some words they'll look up and they just won't be able to find them in the dictionary at all because they haven't even gotten the first

letter or the first two letters correct, and the dictionary just doesn't do you much good. It's not phonic if it's in paper form, and it can't help you find things that way.

I've had a student once — he was one of my favorite stories — who couldn't spell 'binary' and he was a hardware engineer. This is a bit serious if you are a hardware electrical engineer. He spelled binary in one paper "bianary" 75 times and "bianry" the other 75. I had them on Perfectwriter spelling checker at the time. It would not let you batch your corrections, so that once you found one instance of that it wouldn't go and correct all 75. He wound up typing 'binary' 150 times, and he said to me, "Mrs. Mullins, I'm never going to forget how to spell that word."

Since then I've had a lot of students have difficulty with spelling tell me, "By the time the third time it comes up even I've learned how to spell accommodate. I now spell it with two 'cs' and two 'ms', and it used to be one of my favorite words to misspell." I find it improves their grammar because I did some interviewing of several students and a couple of professionals once to find out how they handled these words they were reasonably sure they couldn't spell, and one of the professionals I talked to put it very nicely. He said, "I'll be zinging along halfway through a sentence and all of a sudden i'll realize I don't really know how to spell this next word, so I go _____ and I back up and I try to write my way around it, and I think I've gotten to the end of the sentence okay, but when I go back and look at it later I find that I've butchered my grammar." In trying to cope with one problem he has created another problem that is just as bad. I would much prefer to have the student have a spelling checker that will at most mean they miss the thing three more times — unless they're dyslexic or have some other certified learning disability in which case the student is at a competitive disadvantage if he doesn't have something like that — even if the other students don't have it.

I found the checkers are a help because a lot of my students will compete with themselves; you know, writing for most of us is a lonely project. Once we've got words on paper — which for some of us may be the toughest part of all — we've still got this difficult thing in front of us. And how do we make this paper better? How do we tighten it up? How do we know when we're making some progress? Well, the students that use these checkers rather like them. They see how many marks the spelling checker or style checker makes. Then they go back and they make a bunch of changes based on those, and some of them they ignore and that's the other part of it. I keep telling my students, you know, "Expect that you'll get about 20 percent comments no matter what you do. There are some things you cannot do to sentences, and there are some changes you cannot make." The "active voice" style checker has no way of knowing, for instance, that you want to emphasize 'the body was found on the floor'. You want to emphasize the body; you don't want to emphasize the person who found the body on the floor. I find it puts a lot of interest back into the revision process for the students who are using this on a regular basis.

Overall I get a lot better writing. I've had some students that were magna-cum-laude, summa-cum-laude coming into my classes, perfect students in every other way, except they couldn't write their way out of a paper bag. Four and a half years of reading engineering textbooks had really wrecked all the style they ever might have had. These style checkers helped them to get out of that and for that I found it particularly useful.

It takes my time in the sense that when there are questions about what the checker has said and what they think they want to do about it, they need me, and that's what I try to make myself available for. But they make 90 percent of their own decisions and that makes me very happy.

I don't start using them until part way through the term. All of these programs are very, very simple to use — one command, press return, you may need to fill in a file name depending on how you type that first command, and that's about it. Then you sit there and tap your finger for about three to five minutes while it goes and does its thing. If you're buying word processing software you need enough for students if they have access for say 6 to 10 hours a week. But with these checkers, three to five minutes per paper is about all a student needs, and they only need that once every week or ifthey've got two papers, twice a week. So you don't need to have the same quantity of a checker that you have word processors.

The problem, of course, is I'm convinced at this point, having used the thing for three years, that the students really need their own personal copies. There are a lot of reasons for that — safety and not being chased home by football players at 4 a.m. is one. That's why I like to see site licenses or volume purchase agreements, and our university is actually negotiating a license with the Writesoft people right now. They are a little boggled by it. They've never dealt with a campus that has 22,000 people and 11,000 PCs. I'd much prefer every student have a copy of the software. There are often tailoringreasons. RightWriter comes with specialized dictionaries. For instance, in the business area it's an electrical, electronic engineering dictionary; they're just completing a legal dictionary; they're just completing a medical dictionary — that you can add to the basic dictionary these programs work with, and it makes the program itself a lot more useful in specialized professional areas.

You can boot the PC with the DOS disk or if you want to, you can put the boot information on your style checker disk. Put the RightWriter disk in Drive A and your text disk in Drive B. You can type "Write b:" and whatever your file name is, and if you type that RightWriter does everything else for you. It'll ask you three or four questions. All you do is press return at each one to accept the values the program will give you anyway. And it takes anywhere from three to five to eight minutes depending on the length of the paper. I've had it take as long as 15 minutes, but that was on a 55-page master's thesis draft.

Question: Can you modify the style checkers?

MULLINS: Yes. I can't modify Right-Writer right now. I wish I could. But I can go in, for instance, I can put in single quotes — there's a bunch of things. In fact, some of my programmer friends actually use it to check punctuation in their FORTRAN and PASCAL files.

GALE WILEY: You could theoretically change it to look for cliches?

MULLINS: Yes, you could. You can add to those phrase

files ones that are wordy or cliches, and there's also a Caps Ext, I believe is what it's called. Let's say you've got a certain batch of acronyms that students typically use. You can put those in a file and there are also abbreviations that you can put into special files. You'll see one in one of my sample texts. We could put "Jr." with a period in there and then it would cease flagging that.

This just happens to be the spelling checker that I use with our students. I probably will not use it next year because the students will be using Volkswriter 3.0, which has a spelling checker built into it. That is just as simple and works exactly like the other programs. The only difference is that instead of advising — which all the checkers can do, telling you you've got a possible problem and making a suggestion about fixing it — is that this thing will bring up the misspelled words one by one almost always with a sort of "I think you mean." Normally the first word it suggests is the one you really mean. This particular product, which is put out by a small company in Illinois, is very good at phonics, so if a student has spelled phonic 'fonic," it's very likely to put up 'phonic" as an option. Not all spelling checkers are that good at doing this sort of thing, but for my dyslexic students and my real (difficult)cases where spelling and checking is concerned, I love this spelling checker for what it'll do.

Now let me try showing you some of the ways these things work. I'm going to take Rightwriter first. OK, there it goes, and it says "search comments" and asks if I want those, and I'm just going to say "yes" to all of these options. This is a fairly short file telling us there's 326 words in the document, number of unique words 208 — so if you want to know how much variety you're using in your prose, it'll tell you that.

Then it gives you a measure of uncommon words. What you have to remember about this dictionary, which is about 45,000 words long — not as large as, say, the spelling checker is. That dictionary was built primarily for business use. If you used it with journalism students you'd probably want to use their Rightwords accessory, which is about $29, and build a dictionary of your specialized terms and then use the Rightwords program to add those to the basic dictionary.

It givzs you things like the Readability Index — which in this case happens to be grade 10 level. I've always found their Readability indexes a lot lower than I would like, and that's one thing I'm talking to this company about. Their Strength Index takes a look at things like passive verbs — there are several things that go into building up that index; in general, the lower it is the better. If your Descriptive Index, which measures the number of adjectives and adverbs you're using (is high), you're in trouble. (William) Zinsser knows what he's talking about when he says we use entirely too many adjectives and adverbs. Jargon Index is how many of those terms are you using like accountability, feasibility, implementation — all of these five-syllable wonderful words — the more of these you get, the higher an index you get. The Summary is now complete and you can use your word processor to view, edit, print. One of the nice things about Rightwriter is once it has finished analyzing the file it writes it to a brand new file name.

And here is the list of Uncommon Words and what it says is "Will any of these words confuse the intended audience?" But when you look at the words that are uncommon in this particular dictionary, you always have to ask yourself, "Is it going to be uncommon to my particular readership?"

WILEY: Do you have students make paper copies or do you have them work on the screen?

MULLINS: That's a good question. The students that are using Volkswriter I find make a switch in about midterm. The first time they use this program they will do a DOS Type and a Control P on the computer so it goes out to the printer port, and that works just fine, and by the middle of the term it has suddenly hit them — hey, they don't need to do this. They can pull this file back into the word processor and just edit directly from this. Now when I use it myself because I'm using Microsoft Word,RightWriter automatically translates from Microsoftinto a basic unformatted file. I don't even save it that way. It doesn't save me any time to pull that one back into my word processor because I've lost all my formatting information when RightWriter crunched it so that it could read it. So, I'm pretty much forced to work with typed paper copy and then go back in and work on my original file with the paper beside me.

When I am grading electronically — which I do on some students — what I do is ask them to give me their papers on disks and a paper-analyzed copy, and for me that's the fastest way to do it. There are some teachers that don't want the paper copy at all. I just think I'm entirely too old to be taught new tricks.

WILEY: Presumably if you had a split screen capability though, you'd work on screen?

MULLINS: Yes. And as a matter of fact that's what I do with Microsoft Words. I just open window 2 or 3. I usually use the five windows on Words and I just put my edited copy in one.

OK. Cleanup is the part of a program called Punctuation and Style that looks for things like unmatched parentheses, unmatched quotes, space after periods — that sort of stuff. Now there are two ways to use this program. I happen to be using it interactively, but that does not mean I can make changes right here on the spot. All I can do right now is tell it — do I want it to mark this particular area; do I want it errored; do I want it to ignore it; or do I want it to quit the program. If you run this with a '$Q' option on it or a '$QD', it will run the way RightWriter did — completely in the background, you know, until it's all done and it will mark the errors, and then you can do a DOS Type, send it out to printer and get a printed copy or pull it back into your word processor — whichever you'd like to do. This particular one — what it's doing is looking at the period after 'Jr.' and saying, "Hey, there should be two spaces after that sentence." By the way, that's something you could alter if your style requires one. Here is where a student has typed two spaces after a word instead of one and it's saying, "End, missing end of sentence punctuation, or extraneous space." And given the number of my students who totally forget to put in a period, I'm grateful to have this sort of thing. In this case I would have them mark it so I'll press an 'M" for mark. And then, you're going to catch a bunch of these. There's a missing capital letter. This is that list you recall seeing at the end of that file when I ran it a few minutes ago. There's a space there and a period. What it's looking for is

"I don't show students (checkers) until they're working on their second drafts. I think putting them in students' hands at the beginning of the term would be nothing short of a disaster."
Carolyn Mullins

a capital letter on run-on. This particular professor's style does not use it there. I probably would tell it to ignore it, and then it will pick up the next one, and the next one.

That gives you a basic feel for what these things do. I'll say "yes, no files changed" all the way. If I had run this thing all the way through with the quiet option, it would probably would have taken it — given the size of this file — all of about a minute, and at that point in our lab — given that we have very few printers — I'd have the students take the disks to one of large campus labs where we have one printer for every two PCs, and have them printed out there.

Questions about this?

What's the name of the program you use?

MULLINS: This particular one is Punctuation and Style. Now the RightWriter does not have the capability that I just showed you. It will not necessarily find open parens without closes, open quotes without closes, but it will find subject/verb disagreements. It will find sentence fragments, and it's remarkably accurate doing things like that.

The style checkers, as I told you, mark things like open brackets without closed brackets, missing capital letters — they'll pick up doubled words. Some of your spelling checkers — the ones that are built into your word processors — will also do that for you. They pick up grammatical errors such as incomplete sentences and subject/verb disagreement, and I've been very pleased. The first version of the Right Writer program, I'd say it picked up the error correctly about half the time, and I just kept sending files down to Writesoft, and they kept running my students' disks through their programmers and they just made changes and made changes and made changes. And I'm getting a much lower error rate with the 2.0 version. They're working on 3.0 right now.

I think they're going to improve considerably more, but one of these days I expect to see some of the textbooks on grammar and style coming out with disks attached to them. These programs have got some way to go before they become really good enough to be used that way, but that's something I'm looking for in the future as a possibility. You do want to remember that the punctuation and style checkers — unlike the spelling checkers — they advise only, they mark — they do not make the changes for you. It's up to you to decide do you want to make the change and if so how. They will, however, in most cases make suggestions to you — how to make the change.

All right. Who can use these programs if concerned? I've used them with my own children as juniors and seniors in high school. I don't think I'd be happy using them much younger except for students that have an extremely fine command of language, and many of them do not. I think you'd run into more problems with interpretation. Students tend to believe that if it's written down on a paper, or a computer says that, it is God, and you have better luck discouraging this viewpoint the older the student is. The people in freshman English at Virginia Tech are using it. It's not a required tool, but it has been interesting watching. I tried very hard to run a controlled experiment last year. We put four sections of engineers —all of them had their own PCs — and used those as experimental sections, and we matched them with control sections that were just randomly selected students in freshman English. And then I took a section of technical writing and used the checkers with my students and I matched it with somebody else's section that was not using them, and we couldn't manage a decent control. Students in the control classes saw what these programs could do. Have you ever tried to tell students that own their own PCs that they can't use them for the term? And have you tried to tell them that they can't go into the lab — "I'm sorry. You're in a control group. You may not have access to this particular aid. Go away." It doesn't work. You know, I came out with some interesting findings. They showed some improvement but they're not at levels of significance that I am terribly happy about. The only conclusion I came to is I don't think we can do much in the way of controlled research on these things any more. I think we need to be concentrating our efforts other places, helping students develop discrimination.

I want to tell you just a little bit about where and how I use these. I don't even tell the students these checkers exist at the beginning of the term. I let them go three and four weeks. Spelling checkers they know about. The grammar and style checkers I don't show them until they're working on their second drafts. I have them write three drafts of their great, big, huge, anywhere from 10- to 50-page projects for me, and I always show them that line of tape before I turn them loose on the style checkers. Their instant response is, "Mrs. Mullins, I can see everything I did wrong in my paper. Why didn't you show us early?" And I tell them, "Because I didn't want you doing that. I want you concentrating on substance until you get ready to revise." I wait until my students are past the reader-card stage, the fact-drafting and what I think of as the big revision stage doing block moves, getting their organization straight, getting all of the outline of the paper set down, and once that is taken care of, then I encourage them to use the style checker to begin looking for things like the passive verbs, the wordy phrases. I think putting them in students' hands at the beginning of the term would be nothing short of a disaster.

I would caution students, especially with Punctuation and Style, to analyze a duplicate of the file because that program is not going write to a new file name. RightWriter always writes to a new file name, and I'm a firm believer in Murphy's law, particularly where computers are concerned. If the electricity can strike at just the right time to destroy my only copy of the file, Murphy's law says it will. So I tell my students always to work on copies of their files.

To Check or Not to Check:

How much of a role should style or spelling checkers play in writing classes?

Nancy Sharp of Syracuse University began by explaining that the Newspaper Department faculty has not really made a firm decision on the use of style checkers and spell checkers:

But I know you're familiar with faculty meetings and the first semester we had our computer lab we had a Newspaper Department faculty meeting, and we have an informal rule that we never go beyond 6 o'clock at these meetings. And so at 5:45 no one wants to say very much because we're looking at the clock and thinking about all these other things we need to do after we get home from the meeting. But on this particular day at about 5:45 one of the faculty members said, "Oh, before we adjourn, can I just ask a question? One of the students asked me would it be all right for him to use a spell checker on his work that he was doing in the lab?" And that was the longest faculty meeting we've had. I didn't think any subject would be that fascinating or people would be that involved to carry us beyond 6. But everyone had to say his piece, including me, and we still have not got a real firm rule about, you know, how we're going to handle that. So I think this is the session we're really looking at and listening to (in order) to try to figure out how to, you know, come down on the use of style checkers, spelling checkers and those things in teaching newspaper writing.

Let me first introduce the panel. You've met Carolyn Mullins. This is David Dobrin. We have two students — one of them is in favor of using checkers, and another who's not in favor of it — from Syracuse University, and we thought that you might be interested in asking them questions. They're going to say a small piece, their reaction to it — Jeffrey Price and Mike Johansson. But we'll start with David Dobrin, who's a former faculty member at Massachusetts Institute of Technology where he taught English. He's now president of Lexicon, a Cambridge, Mass., consulting firm, that advises people about educational software and hardware and he's particularly interested in the teaching of writing. He has written books on writing and he has also written articles on style and outline analyzers and on networking, so we're going to give David time to react to Carolyn, and Carolyn will have a moment to react to David, and then we have very short presentations by the students.

DAVID DOBRIN: Essentially what I'm going to say is there are lots of problems with all of these things and, in fact, ultimately I think they are a distraction. So that's the cat. It's out of the bag now. My problem is to prove the point.

What Professor Mullins didn't say clearly and forthrightly and out in front, which I say all the time about these things, is that they're not accurate. You did say from time to time that there are mistakes and so on and so forth, but to me the fundamental fact about all spelling checkers, style checkers, diction checkers, any kind of checkers you want to name is that they don't work correctly all the time. Now there's an extremely simple reason for that and that is that they don't work the same way we do, that is, what you do when you read a sentence or read a word or whatever, is you look at the words. What the computer does when it reads a sentence or a word is nothing of the kind. What they read are symbol strings so that the word (w-o-r-d) is to us a word; to the computer, however, it's just a collection of characters.

Now the way all spelling checkers work is there's a list of correct words, that is, words already in the directory. But when I say words I should put the words in quotation marks because it's a list of symbol strings that are already in the dictionary, and the computer goes through and it checks every symbol string and it sees whether it matches the symbol strings that are already on the list. And when it doesn't match, it spits it out in whatever form that you want to have it — either at the end of the file or within the file or whatever. It says to the user, "This is a misspelled word," when, in fact, it means to the system, "This is a symbol string which doesn't happen to match."

Ditto with diction checkers, that's what they call lists of words frequently misused. It goes through and finds all the symbol strings that are frequently misused and spits them out. Style checkers are slightly more complicated. They essentially have lists of collections of words which are in some way or another often problematic or not problematic. For instance, all the "to be" words between an initial capital letter and an ending period. That's a sentence, and that sentence then has a word link that is so and so.

So in each of these cases there are mistakes. Now, for instance, in spelling checkers whenever you have a non-standard spelling of a word like "gage" for "gauge," which is entirely acceptable in certain engineering circles, it catches "gage" and spits it out. Or, whenever it finds a word which just doesn't happen to be in the original 45,000, it spits that out. Like some of my favorites from my writing are "rote," which no file checker I've ever seen actually finds. That's one of my good tests. And then lots of longer, three-syllable words that William Zinsser I'm sure hates, but I use all the time like "vitiate" and so on.

It also finds proper names, technical terms, all sorts of stuff. When you think of spelling checker and you run it through and you get first of all a whole bunch of garbage, which is all the things that the computer doesn't recognize but you do. Then you get a little bit of non-garbage, namely, all genuinely misspelled words, and the problem of the person using the spelling checker is to separate all the garbage — and

"To me the fundamental fact about all spelling checkers, style checkers, diction checkers, any kind of checkers you want to name is that they don't work correctly all the time."

David Dobrin

I use the word garbage advisedly, because that really is what it feels like. I mean, you're just going in through the can and finding all the stuff that you accidentally threw out that maybe you shouldn't have thrown out — at least to me. Now I admit that right up in front that I have an emotionally negative reaction to spelling checkers, which shouldn't compel you in any way, shape or form, and I don't want to impose it on you. But, you know, at the bottom of my rationale is I don't like to go through garbage.

OK. Now the thing is that I can go through garbage like a demon and I'm always right — 99.999% of the time I'm right. I can really look at a word and tell whether it's misspelled. Now what happens when somebody isn't nearly as good as I am at going through garbage? Are they helped or hurt by that? Is their situation better or worse? Well, in one sense it's a whole lot better because the percentage of garbage is a whole lot less. I don't misspell words in the first place, so there usually are very few misspelled words when I go through spelling checkers for my books. With your students there are lots and lots of misspelled words and not very much garbage, which is why you use them. But the problem is that you still don't know which ones are misspelled and which ones aren't. You still need a dictionary if you are in a situation where you don't know how to use the first one.

So you have a funny kind of dynamic here with spelling checkers. If you know how to spell words you don't need the spelling checkers, because it isn't worth the time going through the garbage. If you don't know how to spell words, spelling checkers create big problems for you because you don't know how to sort out the garbage. Now despite that there are a lots and lots of people who love spelling checkers and use them and are willing to go through the garbage, and that's fine. I have no fundamental objection to people who want to do that. But I do want to point out that that creates some funny kinds of problems, namely, the problem that you talked about — the person who writes a sentence and sees a misspelled word or words they don't know how to spell and writes around it, it creates another problem, but at least it's not the problem done by the spelling checker.

But I've had other people tell me about that. And the fact is that if the word comes out on the spelling checker people are still going to be inclined to just excise the word from their vocabulary and rewrite the sentence rather than go to the effort of actually working out the word. And that's a problem with it because that is not the effect that you want to create. In fact, I think it's a very serious problem. If the effect of the spelling checkers is to make people remove words from their vocabulary because they know they don't know how to spell, then that's a very peculiar but very serious problem that you'll never see because you'll never see the final version.

Now all of you may think this is really trivial because, you know, obviously it's good to find things which are just inadvertent errors. Spelling checkers catch inadvertent errors, and that's an important use of spelling checkers, which is absolutely fine. Even I when I'm sending something out for publication I occasionally go through them to make sure that I haven't left some inadvertent errors. And I think that's the primary use of spelling checkers. It's probably worth it for a lot of people to lose a few words from their vocabulary, to spend a lot of time going through garbage, just so they can find the inadvertent errors. But what happens if there aren't any inadvertent errors? Is it absolutely impossible for the errors to be inadvertent?

Well, that's the problem with diction checkers that will go through and look for words that are often misused. For instance, "due to the fact that" or "the fact that" — that's the example I'm going to be using. That it's impossible for somebody to use "due to the fact that" wrongly inadvertently. It's not like mistyping, you know, if you said "due to the fact that" because you wanted to say "due to the fact that."

First of all there are lots of times when "due to the fact that" should be replaced by "because." All styling diction checkers don't use "due to the fact that." They use "the fact that" because they don't have the search string for that. And there are lots of "the fact that." What we're looking for is "the fact that." Sherlock Holmes found the fact that eluded everybody else. My lateness was entirely due to the fact President Reagan doesn't want to put any money into urban transportation. Both of those sentences "due to the fact" is perfectly well used. You know that and I know that and all of us would use "due to the fact that" or "the fact that" in both those sentences. The question is: What about the poor person (who only) knows that there's some problem associated with "the fact that" — what do they do? Well, I've seen what they do. One thing that they do is that they replace "due to the fact that" by "because" in the sentence I just said. My lateness was entirely because Ronald Reagan is unwilling to put money in urban transportation. It should be "due to the fact that." And they also get very puzzled and annoyed by Sherlock Holmes found the fact that eluded everybody else.

So what you've done actually is created a lot of doubt and confusion about usages which are sometimes used correctly and sometimes not used correctly. Most of the time, I admit, not used correctly. Well, what should you do about that? Obviously you should spend time teaching people. If you're going to use these programs, you should teach them when they're used correctly and when they're not used correctly. Now, of course, that's what we're always trying to do in the first place whether we have computers or not. And so then the question is: Is this a good use of the computer, of time, and so on and so forth? And once you've got the computer, in order for them to use the computer correctly they have tolearn how to sort out the garbage, which means you have to teach them the garbage which you never did before. I think it's a ridiculous use of your time.

And what I want to do is to show you why I think it's a ridiculous use of your time by looking at the same text that Professor Mullins showed us, and I'll identify the errors

that she identified. And then we'll go through the text and see what we think are the real errors. Now, I didn't even look at the text, I'm sorry to say, because I was looking away, and I only saw a little bit of it. So it's really new to all of us. Is this what you should be looking for in that text or should you be looking for something else in that text? Here it is.

In 1981 on a Washington street President Ronald Reagan was shot by John Hinckley Jr. Hinckley was apprehended into custody immediately. [Error. Now was that caught by the computer? No it was not. There's nothing in any of those programs that could possibly touch that.] *Many thought that the young man would receive a massively cumulative life sentence* [Anything wrong with that? Yes. The computer didn't catch that.] *due tothe seriousness of the crime.* [And there are some strong objections to "due to" which will be coming. Okay, what's your objection? I mean, is "strong objection" as bad as "massively cumulative"? Is it as bad as "apprehended into custody"? Now what's going to get flagged by the computer in those three sentences ? 'Due to'. Okay.] *However, to everyone's shock Hinckley was judged not guilty by reason of insanity. This seemed crazy but it's only by maintaining the loophole of an insanity plea that our courts can prevent themselves from persecuting the innocent.* [Anything wrong with that? OK. Come on, speak. It's your turn. I think (he) means persecute.But what about the sentence before? Is that in the right place in the paragraph? You should be jumping all over this. Well, it's awful. Tell me what's awful about it. That's the issue. It's first of all — it's sort of weird.

Let's change it to "the court needs to retain the insanity plea." Now suddenly we're back to Professor Mullins, because (her program) will catch "it is" as a problem. So that's something that will actually be caught, and it's a funny sentence. Say you're a student who wrote the original sentence and "it is" is flagged. Are you going to be able to repair that sentence in the way that I just suggested? My guess is no. Here's a student who wants to rebut me and Professor Mullins who will, I am sure, be very happy to rebut.

But I think that the real problem with that right there is that it just doesn't belong in there. But the thought is that we've moved from a news story about John Hinckley, to the facts about John Hinckley, to the problems of court persecution. A news subject deserves more treatment than that involved.]*Since the trial Hinckley has remainedunder psychiatric observation. His fate is mixed ranging from periods of extreme lucidity to discussions with reporters from Newsweek.* Now I have had hundreds of students even at MIT, which is supposed to weed them out, but it's just as sad at MIT, and what this person needs is really serious careful work. (He needs to learn) what's important to say and what's not, what's obvious and what's not, what's a dreadful construction and what's not. If I had 15 minutes to spend with the student by myself . . .

Now that's my fundamental objection to all computer style programs. Now clearly with spelling checkers — we're working on spelling where the students can do a lot for themselves because they can look it up in dictionaries because they're making different errors, plus most of those objections disappear. I mean I can come down slightly on the side of the spelling checkers. But when the errors themselves (are such) triviality that actually they don't matter then I think, you know, you're wasting your time. I'm sorry to say that because I think that most people in this country are so desperate and so hurting and there are so many students who (have problems) that they're looking for anything whatsoever that will help them in some way to deal with this massive outpouring of what could be great literature but isn't. They look at (such) programs as a way of (dealing with it), and it is a way of (dealing with it). But I think that ultimately once you've seen it, once you've tried it out you have to say to yourself, "I wish I could use that. I wish it did work, but it doesn't work well enough for me to be spending my time on it." And that's the decision that I made after trying it out. There are much more (sophisticated) programs than what you showed that are available to students at MIT. AT&T's Writer's Workbench tools are available and are much faster.

SHARP: Very good. Let's give Carolyn a chance here. We've very short on time. So Carolyn, do you want to give your rebuttal? I should introduce you. She's an visiting associate professor of English at Virginia Tech where she teaches technical business writing and evaluates word processors and programs for the university and helps train faculty to use them. She's the author of an enormous number of articles and she has a book coming out — a professional survival guide to computer age writing and publishing.

"I'd rather have them miss one or two misspelled words that at least a checker said, 'Hey, those are not on my list of approved terms,' than have them miss if I didn't have something working with them."

Carolyn Mullins

MULLINS: Let me tell you a story behind this text. It was not written by a student, believe it or not. It was written by the professor, who was teaching the course, as a part of the final exam. What he did was he wrote this particular passage following a fairly raucous party the night before at which he had consumed more than his accustomed quantity of beer. He had not gotten a great deal of sleep and when he sat down to compose this he had — I think he had Cindy Laufer on for three hours — which will do things to most people, and he had three beers at the time he wrote it. What he was trying to do was produce a passage that would give the students some things to work on, and I think we can all agree that he did indeed accomplish his goal at that stage. The thing is I'm not prepared to throw out the baby with the bath water, which is what Dave clearlywould like to do. I'm perfectly aware, as he points out, that these checkers are not accurate perfectly all the time. I'm not perfectly accurate all the time either.

If a student comes in and says to me, "Mrs. Mullins, you marked this and I just can't see anything wrong with it," there's a probability of about 1 percent that my student is right. I mean, I don't change grades often and when I do they're more likely to be a half-point. But I make mistakes

for reasons that don't have to do with electronic glitz and following perfect syntax rules. I make them because, you know, three-quarters of the way through doing an edit on a student's sentence somebody yelled, somebody turned on a radio, somebody walked in and said, "Quick, Mrs. Mullins, can I get you to look at this," or maybe my mind just wanted a temporary vacation.

I know these checkers aren't perfect, but whereas it takes me three hours and takes my students — depending on the length of the paper — up to three hours to go through a paper and simply mark all of the passive verbs — and I think it's important to mark potential problems before you go back and endeavor to try to make changes in them. The checker takes three to five minutes as opposed to my five hours, and I'm willing to have some slippage in that because there would be some slippage and I've had students say to me, "Gee you missed this one, Mrs. Mullins," and absolutely I did. I am not perfect about these things. I think one of the reasons I'm perfectly willing to put up with the imperfections on these things is simply that when students start working with something, and I'm very careful to tell them if it points out passive verbs or if they're using the passive key TXT exercise, they're going to find a certain percentage of those sentences that they don't want to change and that's perfectly OK — no problems with that. What I'm trying to do is get them a way of getting started.

One of the most frustrating things I think I ran into when I was in high school was a teacher who would say, "Now you've got a first draft, go improve it." Fine! How? Give me some specific instructions. How do I improve it? This is partly what these things do. These are at least symptoms of traditional problems that sentences can have, and they give students a handle to start on.

The thing that I find that happens — my students get absolutely hooked on them, and what happens is they may start trying to revise the sentence and because they know I tell them, "Look at the whole paragraph and look at the section these things are imbedded in: What's the thought? What's the action? Who's kicking? Who's the kickee? Where's the action buried in that sentence if there is action anywhere? What's the whole picture look like?" And they may start by trying to remove a particular passive verb but they may wind up writing a whole 'nother sentence — pardon the southernism, but that's the way I think of it. The substance is the same but it may incorporate, say, three or four sentences. I watch my students do this all the time. In fact, you've probably all had this experience with your students. Your students bring you a sentence they're having trouble with and they start working with it and you work with it and you make a suggestion and the kid says, "No, that's not quite what I want, but, gee if we can do that with it we can do this and this and this."

And, you know, at this point I have better luck starting with style checkers and giving students that kind of hand on your shoulder or eye over their shoulder than I do, because I don't have the time and I am not available to my students for 15 minutes — even 15 minutes per student once a day. They're are other things I have to do to survive as far as my professional life is concerned. Where the spelling checkers are concerned, I'm perfectly willing to take a very tiny proportion of errors. My very bad spellers I tell at the beginning of the term, "When you go to use the spelling checkers if you don't have a PC in your room, take a pocket dictionary because you may need to check the usage — and it may not be just spelling, you may be using the word wrong to begin with, and you may have to look those words up."

But, again, I'd rather have them miss one or two misspelled words that at least a checker said, "Hey, these are not on my list of approved terms," than have them miss a large number of words they would miss if I didn't have something working with them. When a genuine error does come up, I keep a list of it and I get in touch with the vendor. One of the most helpful things to me is the fact that we have vendors today who are actively working with us, and that's another reason I don't want to throw out the baby with the bath water. I've got three vendors who are very happy to work with me and to hear from my students about the problems I'm having, and I've seen enough improvement in a year and a half just in the RightWriter product and the Grammatik product (that I) could be very, very pleased about where this going to go in the future. I want that baby alive and I want it getting to the point where it's toddling around. I mean, when it gets to be a terrible three it may be hitting people over the head like terrible threes do, but it's going to be around to help me, and, you know, I'm willing to put some of my time into feeding back and helping my students develop discrimination, because they've gotten a handle to begin the process in the first place. They pointed to this, "We don't use inadvertently due to the fact that" and other such statements. One of the checkers I use does use, as a matter of fact, "due to the fact that." It doesn't limit you ust to "the fact that."

"Personally when I use my own spell checker at home when I write, it makes me a bit lazy. You think it's a magic cureall."

Jeff Price

I'd like to tell a story about writing. I spent ten years as a technical editor in the social and behavioral science area — that's probably where I got started towards what I'm currently doing. I had several clients with whom I had the following agreement. They were the kind of writers that sort of needed, you know, to crank up their motors, in the morning, you know, like the old cars that you used to have to go run the handle around and you might have to crank 30 minutes but eventually you motor got turning fast enough that you could go jump in the car and go off. Well, a lot of writers are that way. When they're that way they often need to write these wind-up, clear-the-throat, hum-hum-hum, put-you-to-sleep sentences because that's how they crank their motors up. One writer in particular I had a deal with — at the beginning of every chapter he would write large summary statements, what I call bulletin board statements, full of things like this "due to the fact that" and this would go along for two or three paragraphs. He had cosmic permission to write them because he needed them to get started but he gave me a

cosmic order to remove them all when I did the editing.

So whether we write them or not, the fact that we do it advertently or inadvertently — advertently is a lost positive — it doesn't make much difference. We may need it to crank our motors up and if a checker comes along and flags the things so that we stop and think about it, I think it's doing us a favor. I think I'll stop there but, you know, I would say my answer to this is: Let's look at the whole process; let's see what we can do to make it better; let's be aware — we don't want to throw out the baby with the bath water.

SHARP: Thank you. I want to introduce Jeffrey Price, who's a senior Newspaper major at Syracuse University, from East Brunswick, N.J., and has had experience working on the Central Jersey Home News and (he's) going to talk about not just the use of style checkers but the use of style checkers in the newswriting classroom.

PRICE: Thank you. As Professor Sharp said, I am a journalism major, and a senior. I also am against the use of style checkers at least for starting level courses. Also, interestingly enough, I am dyslectic. And if any of you don't know exactly what that is, it's a reading, spelling disability. My spelling is rather poor. I do use a checker. In my case, it's almost essential because some words that are spelled wrong are invisible. However, I am against the use, in general, because journalists need proofreading skills, and newspapers — the Home News is one that does not have an on-line spelling checker, does not have grammatic checkers. You turn something in to your editor that has spelling errors, they come down on you like they came down on me, so I was very careful to proofread after that. Personally when I use my own spell checker at home when I write, it makes me a bit lazy. You think it's a magic cureall. You sit there and press the button. You watch the computer go through its magic and flagging the words for you, correcting them. But you don't realize that it doesn't pick up the differences between words 'principal' with the 'al' or 'le' ending. It doesn't say it. And recently in a story I turned in I goofed in proofreading and missed it. There's an article in The Wall Street Journal on grammatic checkers, style checkers, etc. It was this July, and I'm very annoyed at myself that I didn't cut it out, but it in essence stated that grammatic checkers are great for students who do not have a good grasp on the language and makes them better. But the people who are going into a writing field like journalism, it can make them worse, because it tells you when you on purpose have broken a rule of grammar or used something differently.

"This semester when spell checking has been available to me on campus, I can honestly say that I feel my spelling has improved 1,000 or 2,000 percent."

Michael Johansson

SHARP: OK. And I'm ready for the last panelist, Mike Johansson, who's a graduate student and also a Newspaper Department major. He's on a Rotary Fellowship and he's a former reporter for newspapers in New Zealand and Australia.

MIKE JOHANSSEN: I'm an advocate of spell checkers. Coming to this country being used to spelling English English I found it very hard to adapt to American English, and the first semester there was no spell checker available to me. Microcomputer classes on campus were not equipped with spell checkers at that stage, and the computers in the Newhouse School don't have any spell checkers available. That first semester was a real struggle. I felt my spelling didn't improve any because I was constantly going to a dictionary. That's when I realized the word might be misspelled. I was constantly getting very low letter grades, being knocked down for the spelling. In the summer session and this semester when spell checking has been available to me on campus, I can honestly say that I feel my spelling has improved 1,000 or 2,000 percent simply because the words I'm constantly misspelling are always being brought up and showed to me on the screen. The more times you correct a word, as Professor Mullins said, the more likely you are to remember that the next time you come to write it. An average piece that I would write in the summer or fall session would be about 500 words. The beginning of the summer session the spell checker would come up with 20 to 30 misspellings. Now it's down generally between five and 10 — which gives you some idea of the improvement.

In a practical sense, for four months last year I worked on a paper in Sydney, Australia, where they had computers on line for editing and writing purposes for about seven years. During that time they'd gone from having reporters type in stories and then editors edit on hard copy and proofreaders read hard copy, and then printers reset the copy. This was due to union problems. When they eventually managed to do away with 19 of the printers, they went to a system of reporters typing in on compurters, editors editing on computers, and then proofreaders reading hard copy and then making corrections on the screen, but the proofreaders were still working on hard copy. When eventually the proofreaders went by the way, they found the spelling errors particularly jumped a couple hundred percent because the copy editors became the last check on things, and they weren't used to being the last check on things. They tried to persevere with this for a couple of years, and then in April last year they eventually said, "We need a spelling checker in the mainframe computer," and the (management) got specialized software for themselves.

Unfortunately it hadn't been introduced by the time I left to travel in Europe last year, and so I don't know how successful it was. I know one of their biggest problems was place names. I don't know if any of you have been to Australia, but a lot of the aboriginal place names are just unpronounceable, let alone unspellable, and it was one thing they were trying to work out, because a lot of reporters don't have the background. So I'm in favor of them. I think any disadvantage of spell checkers and that kind of thing is if they're not equally available to everyone in a school system.

A transition

In a very real sense, this report represents a transition between the first conference on using computers to teach writing for the mass media and the next, which will focus more broadly on using computers to teach four related skills for the media: graphics and layout, writing and editing. The first conference, "Mightier than the typewriter," looked at the special kind of power that computers deliver to teachers of writing and editing — and their students — and the challenge of making the transition from typewriters to these electronic marvels. More than 50 educators, literally from Saskatchewan to Nova Scotia and California to Florida, came to the S.I. Newhouse School of Public Communications at Syracuse University from Dec. 2-4, 1986, to discuss the issues, hear presentations and try new methods in hands-on workshops. The conference was partially funded by a grant from the Gannett Foundation.

Many of the sessions were taped and transcribed, forming a resource for those who could not attend and a reminder for those who did of the issues that concerned us then. This report by no means covers all that was discussed: Some presentations did not lend themselves to the printed page; a discussion of the future seemed to have been overtaken by events, and the workshops were not recorded. Nor could we reproduce what may have been the most valuable portion of the conference, the exchanges among the participants, especially between computer novices and more experienced users. What has been preserved in this report is a snapshot of how participants thought computers and the teaching of writing for the mass media could work together to improve writing and editing by our students. Its focus is pragmatic, not theoretical, and in retrospect it can be seen that "the camera" was aimed at a moving target.

Although only a few months have passed, much has changed. During the conference, participants operated in an IBM or at least IBM- compatible world *or* a Macintosh world. The new concept of "connectivity" — that lets some Macintosh computers operate with the IBM-type system or allows IBM PCs and compatibles to user Apple Laserwriter printers was unknown. Networking was discussed but not demonstrated; it has become a fact of life for more schools in the interim. More schools are beginning to experiment with data bases. A new concept for easy and effective educational "programming" with something called Hypercard is just emerging.

So the new conference, scheduled for Nov. 16-20, 1987, and called "The Computer Connection," will attempt to address new issues as well as provide an opportunity for those who are beginning or preparing to use computers in the classroom a chance to learn from more experienced colleagues. Workshops that beginners found especially useful last year will be repeated, but there will be many new workshops, especially to provide hands-on experience with various programs, ranging from graphics packages to desktop publishing and from word processors and data bases to spreadsheets for investigative reporting assignments.

About this report

Another way in which this report provides a connection between last year's conference and the one this November is the way it came into being. It began with copy transcribed on an IBM PC using the PC-Write word processing program. The text was then "transported" to a Macintosh SE via a program called Kermit — there are now several other ways that could have been done. Some of it was called into Microsoft Word and some into MacWrite for typesetting. Then it was "placed" onto pages with the Pagemaker program. Some click art was used to dress up the pages and the venerable typewriters were scanned via an instrument called the Thunderscanner so that they could be manipulated by the computer.

The cover was printed out in one piece on an Apple Laserwriter, but it was created with MacDraw to simulate computer paper, a scanned photo of a typewriter, MacPaint to insert the page in the typewriter and Cricket Draw to place the 6-point lettering on a slant in the typewriter and to create the shadowing effect of the word "Mightier."

That all represents a big leap technologically and a tough climb up a steep learning curve from where we were with desktop publishing a year ago. At that time we could turn out a "type-set" brochure with a Macintosh and then paste it up, but were not even aware of all the tools we used on this report. By bringing together experts with this and similar technology in November, we're hoping to learn more about this process and to make the learning curve less daunting for our colleagues across the continent.